



messing about in **BOATS**

Volume 38 – Number 7

November 2020

Lotsa Pages of Good Reading This Month

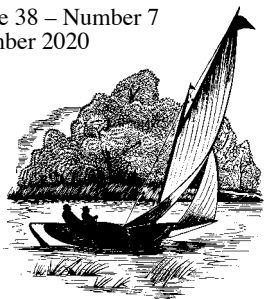
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Plus 8 More Shorter Features!



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Commentary...

Bob Hicks, Editor

It surely has been, and still is, a weird year. Latest figures (October 1) on the viral pandemic show 1 in 45 of us in the US have been tested positive for the virus and 1 in 1,578 have died from it or related causes. The national work force is summarized as having about 25 million out of work from all reasons with the pandemic the major cause of the giant increase. The media drowns us daily in bad news and sad stories, banging away at the ever growing death toll and the growing crowds of people facing financial ruin as their jobs and small businesses vanish and government bailout money dries up.

Yet a quote in the *NY Times* in early October reads in part as follows: "Boats haven't quite achieved sold out pandemic panic buy status, like toilet paper, bicycles and baby chickens but they're in increasingly short supply. With families looking for a way to vacation in as close to a bubble as possible, they're plowing money they might have spent on trips and summer camps into all manner of boats, from \$30,000 16' boats to, in one case, an \$8.5 million 84' Italian yacht."

Sure, but what about our little corner of the boating world where a "\$30,000 16' boat" (low end by *NY Times* measure, apparently) is way beyond our means. How about we nickel and dime boaters working with plywood and glue, banging away at building or fixing up our small craft, often home built? I've seen no published figures but hear from some in the trade that boat building supplies of all sorts are flying out the doors. So it seems perhaps that many of us are carrying on as usual at our modest level. This juxtaposition of national catastrophe and ongoing playtime spending is what I find weird.

Our daily life here at *MAIB* has hardly changed excepting having to adopt covering our faces with masks in places where people gather (food stores mostly for us). A comical

incident occurred on a recent visit to the bank (yes, we do what banking we need to in person) when one person awaiting his turn commented, "I never thought I'd appear in the bank wearing a mask!" The laugh this caused was good to hear.

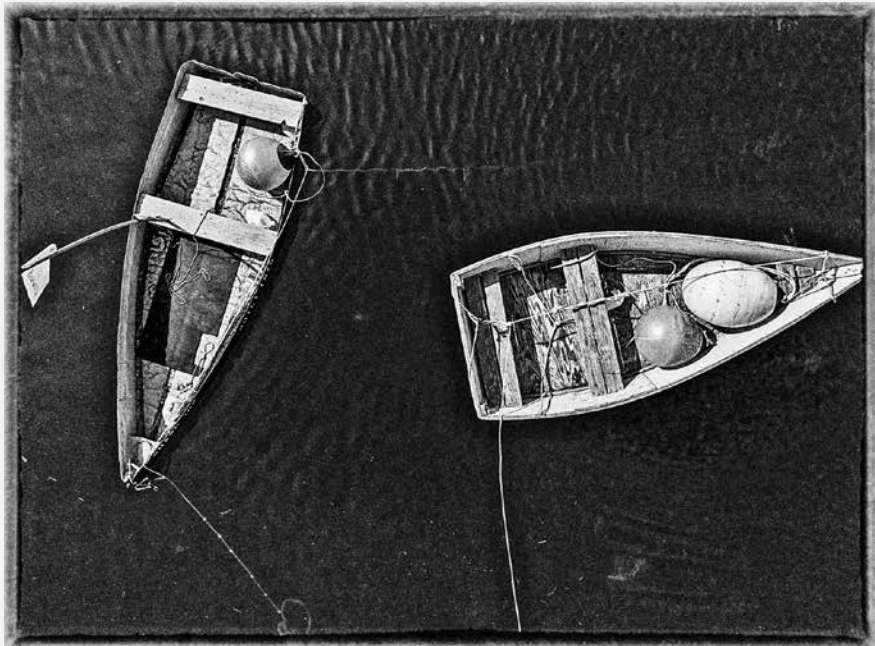
All of our immediate extended family remains healthy and all adult members remain gainfully employed. We personally know of nobody in our circle of acquaintances beyond family who has been infected, let alone died. My friends in boating and cycling continue to indulge themselves, as do I. We paddle (kayaking) and cycle (recumbent triking) more or less weekly. Those readers who contact us about what they are doing, including those who share with us their stories, seem to be unaffected by what has befallen the nation and are busy messing about.

In previous issues I've discussed how the "social distancing" thing has pretty much curtailed all our larger annual gatherings from club meetings to boat shows, depriving us of those rewards of "social closeness" they offer that is natural to the human animal. Lacking these opportunities, those of us untroubled by the scaremongering have ended up informally gathering in small groups involving using our boats.

A closing note: One group of small boaters who have faced almost total shut-down of their game are the "crew" boaters, from Olympic level through Intercollegiate, to rowing clubs. All those rowing shells we pictured on our April cover are parked. According to what I read in *Rowing News*, which chronicles that sport nicely, a frantic search has gone on nationwide for solo shells for the athletes involved in this sport to use to continue to train and maintain their skills and fitness while they await return of the only events in which they can participate. They find there are not nearly enough to go around.

On the Cover...

The scene displayed on our cover this month is of small craft gathered to enjoy messing about in boats, but from 25 years ago, not the summer just past. It is from an eight-page spread we published in November of 1995 of the Mid-Atlantic Small Craft Festival at St. Michaels Maryland, hosted by the Chesapeake Bay Maritime Museum. Like most other gatherings of people in large groups, this gathering of the clan did not take place this year due to the covid pandemic. Lacking a current report, we bring you this look back as our "25 Years Ago in *MAIB*" feature, starting on page 6.



Harkening Back With Harvey

"Small craft images from today as viewed through a long ago lens"

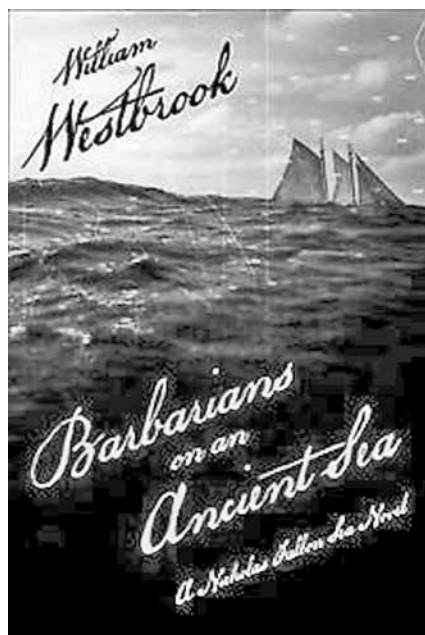
Images by Harvey Petersiel

"Classic lines...from any angle!"



Barbarian on an Ancient Sea

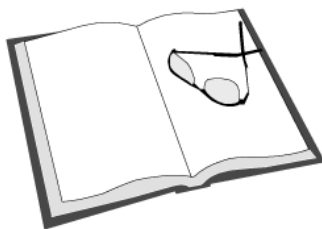
By William Westbrook
McBooks Press
Rowman & Littlefield Publishing)
Lanham, MD: 2020
Reviewed by John Nystrom



There are two ways to write historical fiction (in actuality there is a spectrum or continuum but I'm just talking about the two extreme end points of that spread). One, you can go to the extreme of making the style of storytelling, and the language used, so authentic or archaic that someone would mistake it for something that was written in the period it is set in. The other approach is to write a contemporary story, setting it somewhere in the past but telling it just like a current novel would, complete with current slang and references.

Using the example of Patrick O'Brian's Aubrey and Maturin stories, beginning with *Master and Commander*, one wag made the facetious comment the O'Brian was aiming for a novel that one of Jane Austen's characters could have read. Overstatement, of course, but O'Brian was considered a writer whose goal was authenticity. The other end of the arc might be something like Michael Crichton's pirate novel, *Pirate Latitudes* (yes, the *Jurassic Park* and *Andromeda Strain* guy wrote a pirate novel) where the characters' characters are not all 17th century appropriate. Not *Pirates of the Caribbean* silly, but modern story telling in a costume.

All this is a windy way of introducing William Westbrook's nautical fiction. *Barbarians on an Ancient Sea* is the third and latest story of Bermuda based, English privateer Nicholas Fallon. I have not read the first two novels but was able to jump into this story straightaway without the background of *The Bermuda Privateer* or *The Black Ring*. As for the first two, I can only say they have been well reviewed and regarded by his peers, competing nautical fiction writers. No less than veteran of the trade David Donachie was almost glowing in his praise of *The Bermuda Privateer*. I do warn you that *Barbarians...* is a more contemporary story than the others.



Book Reviews

That is not to say that it isn't authentic as to physical setting or technical detail. Right off the dock I was happy that Fallon's privateer is a schooner and not the usual square rigged Hollywood barge. Not that pirates didn't use square riggers but smaller, faster vessels and small boats were far more often the boat of choice for piracy and privateering.

Though the story is fast paced and exciting, it is told in a contemporary style with the proper post modern and the old standbys. The usual grizzled one eyed gunner, irascible sailing master and young but competent warrant officers are led by Fallon, the captain with thoroughly contemporary morals and attitudes, a lesbian first mate, and rescued by the captain, former slave second mate. All completely likeable characters but a selection aimed at contemporary audiences.

I won't blurt out spoilers but the action is fairly well paced and intense enough for an action film without being exhausting. The action between the captain and his intended is enough to get them an R rating if it were filmed. All of his novels on Amazon have a "Look Inside" tab so you can read enough to get hooked.

I'd rate it good storytelling. There is at least enough reader interest to keep his publisher encouraged, no minor accomplishment in the current world of books. Westbrook sounds like he would make a good shipmate from his biography on Amazon.

https://www.amazon.com/BillWestbrook/e/B001KIZDY4%3Fref=dbs_a_mnh_rwt_scns_share

Since Westbrook is now retired from his day job, I'm thinking there may be further adventures for Nick Fallon and his privateers if the author can spare enough time away from sailing the Chesapeake and Caribbean. If I weren't so far behind in other reading I would probably see if the local library could find *The Bermuda Privateer* for me.

https://www.amazon.com/gp/product/B01493051369/ref=dbs_a_def_rwt_hsch_vapi_taft_p1_il

The Bark Canoes and Skin Boats of Northern Eurasia

By Harri Luukkanen and William W. Fitzhugh

The Bark Canoes and Skin Boats of Northern Eurasia is a history and description of bark and skin boat traditions of the native peoples of Scandinavia, Russia and the Far East. The history of northern peoples and cultures is inextricably linked to the technology of water transport. This is particularly true in northern Eurasia, where lakes and rivers can connect when overland

summer travel is restricted by thick forests or bogs. For thousands of years, native peoples used a variety of bark and skin boats for fishing, hunting, trading, making war, and migrating.

The Eurasian peoples, responding to their geography, climate and environment, learned to construct and perfect small watercraft made from dugout logs or the bark of birch, aspen, larch and other trees, each variety crafted for its special use and environment. The text describes the design, construction and uses of skin and bark boats for 35 traditional cultures ranging from northern Scandinavia to the Russian Far East, from the Bering Strait to northern China and from South Siberia to the Arctic Ocean.

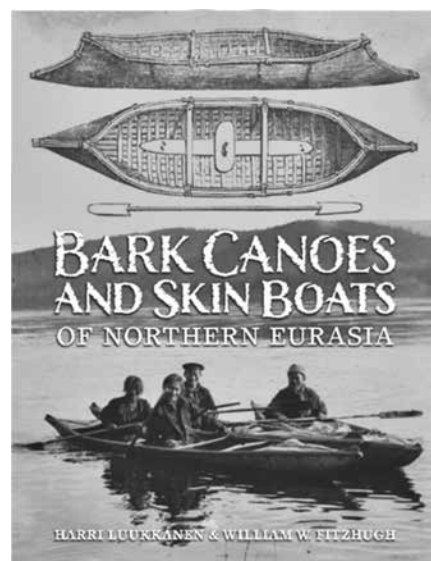
Regional chapters use evidence from archaeology, historical illustrations and maps and extensive documentation from ethnography and historical literature to reveal how differences in cultural traditions, historical relationships, climate and geography have influenced the development and spread of watercraft before the introduction of modern planked boats. In some regions these traditional boats are still in use.

This definitive volume is richly illustrated with historical photographs and drawings, first person explorer accounts from the 16th-19th centuries and information on traditional bark and skin preparation, wood bending and other construction techniques. *The Bark Canoes and Skin Boats of Northern Eurasia* presents a first ever overview of northern Eurasian boating traditions, a companion to Charles Adney and Howard Chappelle's classic, *The Bark Canoes and Skin Boats of North America* (1964).

About The Authors

Harri Luukkanen is a research economist and expert of techno economic studies and a lifelong paddler. He has published two novels and written or edited a dozen nonfiction books, including some on canoes and their history. Luukkanen lives with his wife and twin sons in Helsinki, Finland.

William W. Fitzhugh, also a northern boating expert, is the director of the Arctic Studies Center and curator in the Department of Anthropology at the Smithsonian's National Museum of Natural History.



"People who visit you in Bermuda are likely to notice, even before they notice the flowers of the island, the scores of sailing craft which flock the harbours and the ocean round about. Furthermore, they are likely to ask you about the flowers and this, at least in my own case, is unfortunate because, although I know practically nothing about flowers, I know ten times much about flowers as I know about ships. Or at any rate I did before I began to study up on the subject. Now I feel that I am pretty well qualified to hold my own in any average discussion of rigging.

I began to brush up on the mysteries of sailing a boat after an unfortunate evening when a lady who sat next to me at dinner turned to me and said, "Do you reef in your gaff topsails when you are close hauled or do you let go the mizzen top bowlines and cross your braces?" She took me as a sailor and not a landlubber and, of course, I hadn't the slightest idea what she was talking about.

One reason for this was that none of the principle words (except "reef") used in the sentence I have quoted is pronounced the way it is spelled, "gaff topsails" is pronounced "gassles," "close hauled" is pronounced "cold," "mizzen top bowlines" is pronounced "mittens" and "cross jack braces" is pronounced "crabapples" or something that sounds a whole lot like that. Thus, what the lady really said to me was, "Do you reef your in your gassles when you are cold or do you let go the mittens and crabapples?" Many a visitor who is asked such a question takes the first ship back home, and it is for these embarrassed gentlemen that I am going to explain briefly the history and terminology of sailing.

In the first place, there is no doubt but that the rigging of the modern sailing ship has become complicated beyond all necessity. If you want proof of this you have only to look up the word "rigging" in the *Encyclopedia Britannica*. You will find a drawing of a full rigged modern ship and under it an explanation of its various spars, masts, sails, etc. There are 45 different major parts, beginning with "bowsprit" and going on up to "davit topping lifts." Included in between are, among others, these items: the fore top mast staysail halliards (pronounced "fazzles"), the top gallant mast yard and lift (pronounced "toft"), the mizzen topgallant braces (pronounced "macess") and the fore top mast backstays and topsail tye (pronounced "frassantossle"). The tendency of the average landlubber who studies this diagram for five minutes is to turn to "Sandscrib" in the encyclopedia and study up on that instead, but only a coward would do that. It is possible to get something out of the article on rigging if you keep at it long enough.

Let us creep up on the formidable modern sailing ship in our stocking feet, beginning with one of the simplest known sailing craft, the Norse Herring Boat. Now when the Norse built their sailing boats they had only one idea in mind, to catch herring. They were pretty busy men, always a trifle chilly, and they had neither the time nor the inclination to sit around on the cold decks of their ships trying to figure out all the different kinds of ropes, spars and sails that might be hung on their masts. Each ship had, as a matter of fact, only one mast. Near the top of it was a crosspiece of wood and on that was hung one simple square sail, no more complicated than the awning of a cigar store. A rope was attached to each end of the crosspiece and the other

The Story of Sailing

By James Thurber
Reprinted with kind permission of
The Bermudian magazine,
www.thebermudian.com
Submitted by David Bower

June 10, 2014: James Thurber's "The Story of Sailing" was written for, and appeared in, *The Bermudian* in June 1936. It has since been reproduced in journals of several other countries and in more than one anthology of humour. It seems to us a good idea to offer this learned dissertation yet once again.



ends of these ropes were held by the helmsman. By manipulating the ropes he could make the ship go ahead, turn right or turn left. It was practically impossible to make it turn around, to be sure, and that is the reason the Norsemen went straight on and discovered America, thus proving that it isn't really necessary to turn around.

As the years went on the and younger generation of Norsemen became, like all younger generations, less hardworking and more restless that their forebears, they began to think less about catching herring and more about monkeying with the sails of their ships. One of these restless young Norsemen one day lengthened the mast of his ship, put up another crosspiece about six feet above the first one and hung another but smaller sail on his new crosspiece, or spar (pronounced, strange as it may seem, "spar"). Thus was the main top sail born.

After that, innovations in sails followed so fast that the herring boat became a veritable shambles of canvas. A Norseman named Leif the Sailmaker added a second mast to his ship, just in front of the first one, and thus the fore mast came into being and with it the fore mainsail and the fore top sail. A Turk named Skvar added a third mast and called it the mizzen. Not to be outdone, a Muscovite named Amir put up a third spar on each of his masts, Skvar came back with a sixth, and so it went, resulting in the topgallant foresail, the top topgallant mizzen sail, the top top topgallant main topsail and the tip top topgallant-gallant mainsail (pronounced "twee twee twee twa twa").

Practically nobody sails a full rigged seven masted ship so that it would not be especially helpful to describe in detail all the thou-

sand different gaffs, sprits, queeps, weems, lugs, miggets, lords (spelled "leeward") ges-sels, grommots, etc, on such a ship. I shall therefore devote that space I have left to a discussion of how to come back alive from a pleasant sail in the ordinary 20' or 30' sailing craft such as you are likely to be "taken for a ride" in down here in Bermuda. This type of so called pleasure ship is not only given to riding on its side, due to coming about without the helmsman's volition (spelled "jibe" and pronounced "look out, here we go again!") but it is made extremely perilous by what is known as the flying jib or the boom.

The boom is worse than the gaff, for some people can stand the gaff (hence the common expression "he can stand the gaff") but nobody can stand the boom when it aims one at him from the floor. With the disappearance of the Norse herring fishermen and the advent of the modern pleasure craft sailor, the boom became longer and heavier and faster. Helmsman will tell you that they keep swinging the boom across the deck of the ship in order to take advantage of the wind but after weeks of observation it is my opinion that they do it to take advantage of the passengers. The only way to avoid the boom and have any safety while sailing is to lie flat on your stomach in the bottom of the ship. This is very uncomfortable on account of the hard boards and you can't see a thing, but it is the one sure way I know of to go sailing and come back on the boat and not be washed up on the surf. I recommend the posture highly, but not as highly as I recommend the bicycle. My sailing adventures in Bermuda have made me appreciate for the first time the essential wonder of the simple, boomless bicycle.



James Thurber

James Grover Thurber was born December 8, 1894, Columbus, Ohio, US, died November 2, 1961, New York City, New York) and was an American writer and cartoonist whose well known and highly acclaimed writings and drawings chiefly in the New Yorker magazine picture the urban man as one who escapes into fantasy because he is befuddled and beset by a world that he neither created nor understands.

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13th Annual Mid-Atlantic Small Craft Festival

It was another wonderful weekend for small boat enthusiasts at St. Michaels, Maryland on October 6-8, as John Ford of the Chesapeake Bay Maritime Museum and his volunteer steering committee welcomed over 300 participants with some 130 or so small boats. Variety was the spice of the affair, the boats and the people. And the family atmosphere always an important part of this festival was more in evidence than ever with the young people everywhere enjoying each other's company, the boats and the special activities organized for them by volunteers.

In 1994 with 220 participants the organizers began to be concerned about space limitations as the event grew, but the exponential increase this year to over 300 turned out to be nicely managed without officiousness on anybody's part. While the docks, beach and lawns were chock-a-block full of boats, it is the camping on the grounds that has reached saturation, and spilled over onto the adjacent grounds of an elegant resort hotel/conference center. Nice neighbors, they give the Museum the okay for the overflow to camp on the grass along their property line and use the adjacent beachfront for launching boats as well.

The key word here is "festival". While those who so desire may enter their boats for judging as in a boat show, and races for oar, paddle and sail powered craft are scheduled, it's really all in the festival spirit. Ford, in his pre-event letter states, "I would like to emphasize that this is indeed a festival, not a boat show. The most important parts of the festival are the boats people bring and the people who bring them. The number one priority is to have fun with those people and those boats."

It works. The weekend is hugely successful. Friday evening early arrivals gather for an informal crab feast and visiting. Saturday morning the boats being judged are judged, most of the rest are on the water. Saturday afternoon the races take place. Saturday evening awards are presented under the tent after a sumptuous meal and then an illustrated lecture is presented in the main hall of the Steamboat Building. Sunday morning there's a Worship-on-the-Water church service for those interested, a boat parade along the waterfront, a scavenger hunt for the kids and this year a swap meet. By Sunday afternoon the crowd starts to thin as folks with long trips home load up. Die hards carry

on sailing, rowing, paddling and talking small boats.

My comments with the photo coverage give you the best idea of what it is like to be totally immersed in small boating for a weekend. Before launching into the photos I did want to tell you about John Stilgoe's incredible evening lecture, "Small Boats, Heroism and Women's Work". Impressive set of topics, eh? John kept us all riveted for almost two hours with his comments, insights, humor and marvelously appropriate slides. When he brought onto the screen a slide of his just acquired semi-derelect lifeboat (his current small boat project) he convulsed us all with a wry remark about, "It was really quite reasonably priced!"

John is author of an equally wonderful book of interest to any small boat nut *Alongshore* (see review in October 15, '94 issue). He occupies an endowed chair at Harvard as a professor of landscape history. John didn't come all the way to St. Michaels from Boston just to lecture though, he and his family are addicted to the small boats we all love.

And now, on to the photos.

By Bob Hicks

Marc Pettengill packed them in over the weekend for his demo building of a Phil Green folded plywood stitch & glue canoe. Phil was over from England but took ill and was unable to be on hand most of the weekend.



George Surgent of Seaworth Small Ships organized the kid boatbuilding project, attracting a huge number of kids. They built, guess what, trimarans of polystyrene building insulation board.



Along the waterfront (clockwise from right): Tim Weaver and his daughter enjoying the weekend in Tim's sharpie skiff, the subject of an early series on our pages back in 1984, "*Patina's Log*". The neighbor's place, nice people, they let the overflow crowd camp in their field. Launching a Monfort geodesic, does it really take three to carry? Annette Majjar and Larissa Read enjoying two of Annette's husband's Chesapeake Light Craft kayaks. Racing traffic, the women's rowing race jams up. About ready to go in a Penguin.

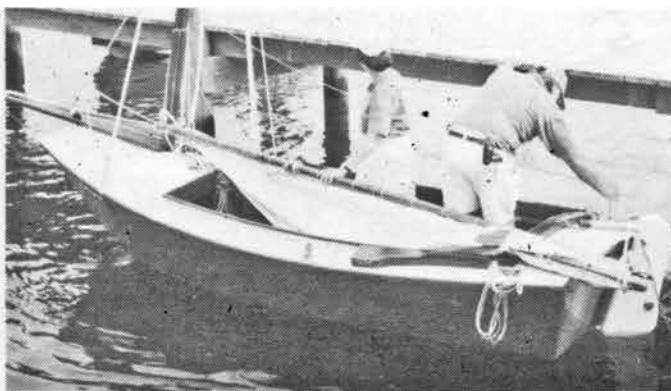
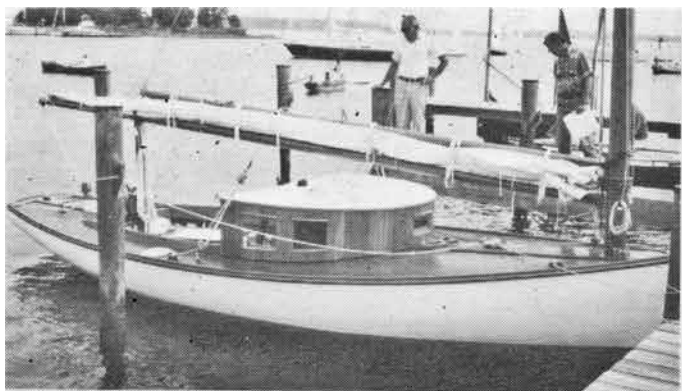
25 Years Ago
in **MAIB**





On the lawn (clockwise from below): The Upper Chesapeake Baymen TSCA Chapter set up alongside *Becky D*, a kinda funky lapstrake skiff. Checking the specs, most boats displayed contained albums of photos and often plans of the projects. On the beach repairs. Talking over a lovely lapstrake double ender. John Thomson's electric launch with the fringe on top. Scott Hershey (left) and Brad Faus build boats together in Dillsburg and Etters, Pennsylvania. For fun that is. Scott's *Nice Boat* took the "Builder's Choice" Award. Brad's boat is a yacht finished Bolger Teal. Marc Barto's gorgeous Melonseed won the "Peoples' Choice" award.



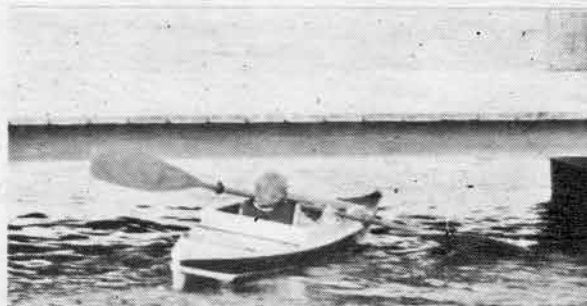


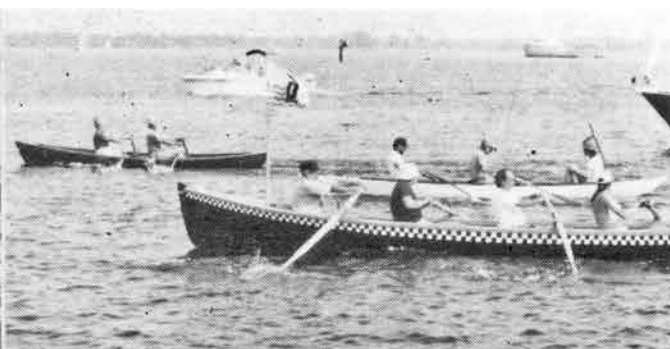
On the docks (clockwise from above): A taller than typical house on this beautiful catboat gave near standing headroom in the cuddy. A San Francisco Bay Pelican about to get underway. Part of the fleet assembled along one of the docks. Four versions of 1880's vintage decked sailing canoes were on hand, exotic and spectacular rigs to sail (and capsize too). Museum director John Valliant's log canoe is a Chesapeake classic. What's in a name? It's gotta be a Bolger design. *Allie Cat*, most recently built of a local catboat racing class started over 50 years ago.





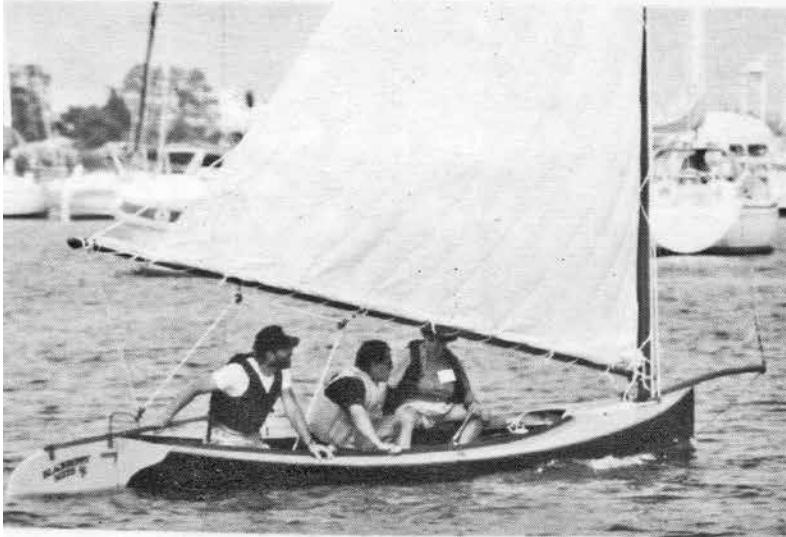
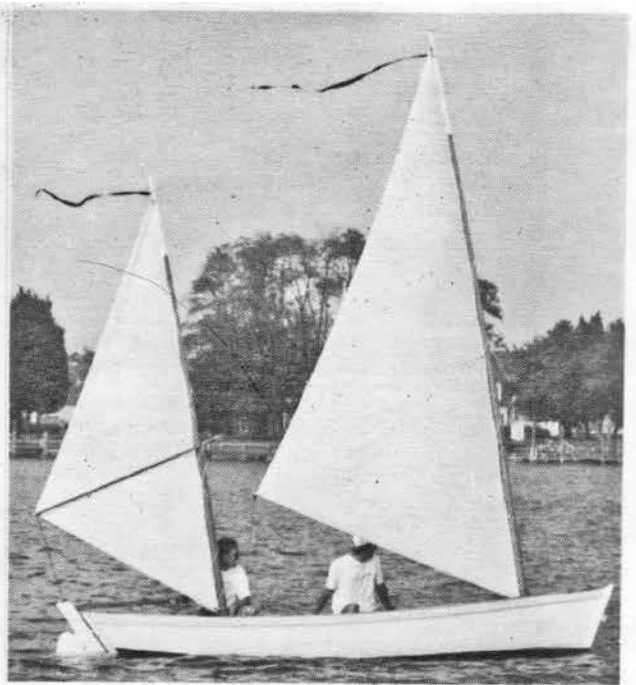
Big weekend for kids (clockwise from below): The kids' boatbuilding project was hugely popular, a few of the builders even posed for this formal graduation photo. This young man experimented with the clearance and balance of a Thomaston Galley. Young lady boatbuilder decorating her trimaran. Blair Sargent sets a blistering pace in the kids' paddling race. Other kids just went along for the ride. Danny Ball's *Project X*, a scaled down Draketail design built in one day of building insulation foamboard and fiberglass, was at first thought to perhaps be Fred Flintstone's boat, here he's checking on his model tri. Doug Grove built this kayak himself and raced it successfully in the kids' paddling race. The young lady nearby paddles one of those trendy Walden kayaks.



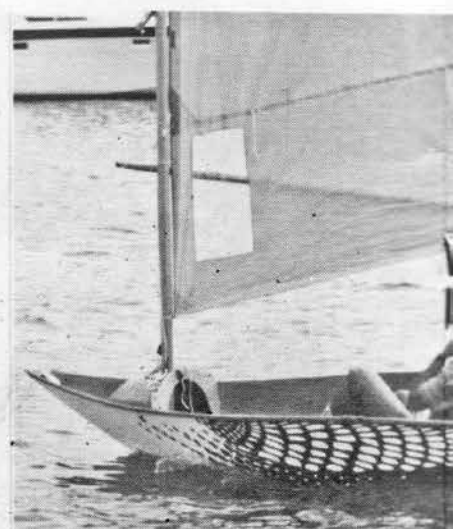
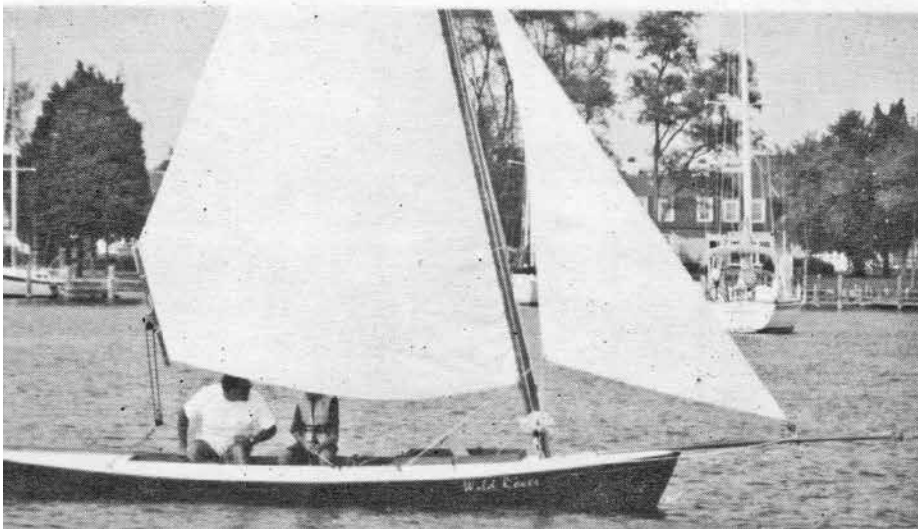
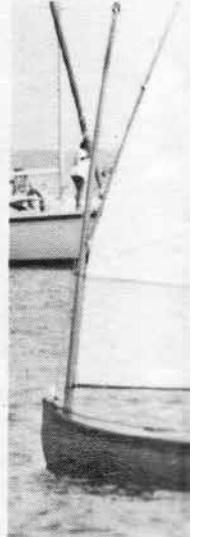


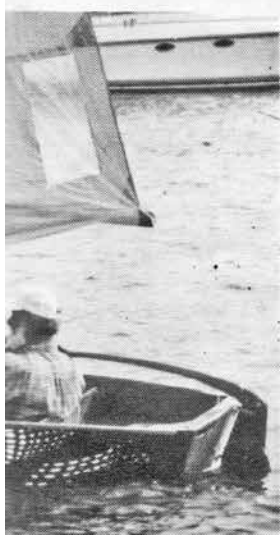
Racing action (clockwise from above): Pondering strategy. Women's race gets off to fast start, Liz Raisbeck on the outside in a St. Lawrence skiff took the win after Mary Brown in the Muskoka Lakes wherry got caught in a traffic tangle. The men's rowing field gets away. Multi-oar boats take off, already winners Mary Brown and Frank Durham in the Muskoka Lake wherry (rear) are ahead, nearby boat is New York's Floating the Apple entrant. The top sailers in a light air race. Bill Lane was first overall in *Allie Cat*, a design built by his grandfather's boatbuilding firm for some 50 years. John Valliant's log canoe came home second under a cloud of sail. The amazing Ahren Surgent in a Penguin dinghy placed third overall, and in fourth came Graham Byrnes in another dinghy, a Spindrift 10.





Sail, sail, everywhere (clockwise from above): Chesapeake crabbing skiff, nice Swamscott dory, Bill Clements' Nord Koster canoe yawl, a Caledonia yawl, a Princess sailing canoe and Tony Dias' Little Cat at the beach, John Thomson's Loonfeather, *Wild Rover* looking fast, John England's Delaware tuckup *Blackberry Seeds*, and in the middle at right, a decked sailing canoe ready to go.





Cruising the Rivers Lynher and Tamar

~Part One

by Steve Parke, an over-anxious dinghy cruiser

Reprinted from *Dinghy Cruising*, Journal of the Dinghy Cruising Association UK

Steve built *Arwen*, a John Welsford-designed Navigator 14ft 9ins standing lugsail yawl, over three years in his garage. She has side, centre and front thwarts and foredeck, all of which have lockers that also act as airtight buoyancy compartments. Equipped with two purpose-built galley boxes, a collapsible sleeping platform and boom tarp tent, she is a roomy cruising dinghy powered by sail, oar or 3.5hp outboard mounted on a transom bracket.

Steve's popular blog is here: www.arwensmeanderings.blogspot.co.uk

A ground. Beached. Stuck fast. Call it what you will. *Arwen* balances precariously on some submerged boulders, her rudder wedged and skeg entangled by floating rafts of bladderwrack. Oar-pushing and vigorous rocking from side to side have failed to dislodge her. In two feet of water I'm happy to jump out and lift her stern off the boulders but my way is blocked and it's all terribly embarrassing. I'm trapped in my boat by a large, angry Canada Goose. It's ludicrous.

On this three-day voyage, to the hidden boatyards of Treluggan and Calstock, I aim to do as much as possible under sail and oar. An unconfident sailor, too quick to motor when winds drop or tides turn foul, I am often plagued by self-doubt, uncertain that my sailing skills will get me out of 'trouble'. I can't quite leave the outboard behind and my over-reliance on it hampers my skills development.

Conditions seem perfect: rising early morning spring tides and south to north westerly breezes of F2/3 (gusts to 16kts), blue skies and hot temperatures. Pre-launch rigging at Queen Ann's Battery (QAB) Marina is swift. Launch fees paid, a quick chat with boatyard staff to catch up on family and yard news. A final rigging and stowage check – waterproof bags secured by bungee straps under side decks, charts, compass and handheld GPS clipped to starboard centre thwart. Foulies and food to hand.

At 08.20 *Arwen* eases out of the marina. I keep a wary eye out for reversing tour boats, water taxis and traffic exiting the lock gates in Sutton Pool. With no imminent traffic threats inside the Cattedown, sails are immediately raised, the outboard killed and a course set for clearing Mountbatten Breakwater and my customary shakedown circumnavigation of Plymouth Sound. A pleasing start, for normally I motor into Jennycliffe Bay to raise sails. Less to hit out there!

10.43. Anxious whenever I sail up to a mooring buoy, but today it just has to be done. 'No outboard, except for Sutton Pool,' says my inner voice. Calculating tide, winds and point of sail successfully, I hook onto the yellow buoy, north of Drakes

Island, and with rudder and centreboard raised, furl the mainsail. Phew! It doesn't normally go this well. Learning to dinghy sail in the Med doesn't prepare you for the vagaries of strong English tides. Stressful, but at least there was no mortifying mad, arm-stretching lunge with mooring pole. Ah, the blessings of a furling jib and all control lines leading to the aft cockpit area!

A quick cuppa and a cheese and marmite sarnie. *Arwen* always sails with a near inexhaustible supply of these! Marmite haters are rarely invited onboard unless they bring home-baked cake with them as an apology. My yellow waterproof notebook says, '...depart DI mooring 11.10am – last of slack'. So, there is time for odd jobs.

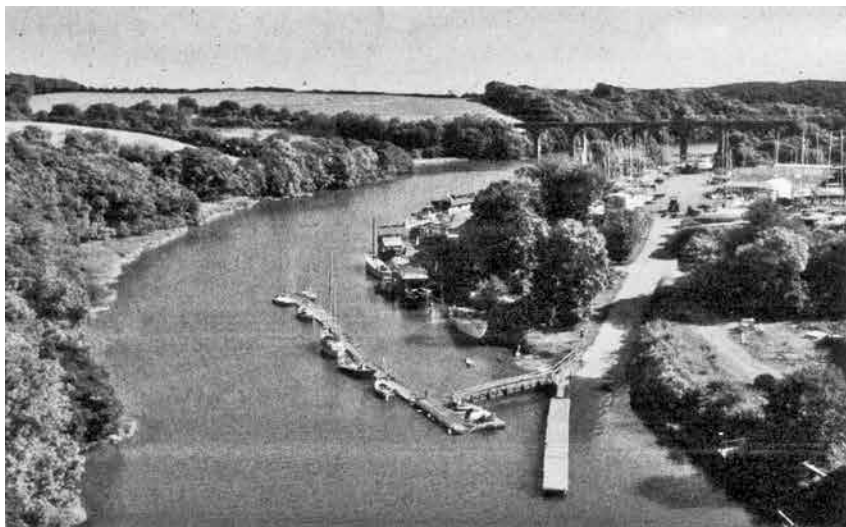
I adjust a GoPro camera mount, swap around one or two bags to improve hull trim and update my log. I ping an 'I'M OK' message on my SPOT PLB to my wife and try to memorize pilotage notes for the first leg up the Hamoaze: 273M, 0.5NM to West Vanguard starboard channel buoy.

11.15. A final perusal of the cockpit and rigging. Sails raised, painter is released, boards hauled down. We drift back off the buoy slightly and I unfurl and back the jib to swing *Arwen's* bow around more quickly. We successfully clear the buoy without incident and without the outboard. Now here's another first!

Never following pilotage notes slavishly. I reach across the Tamar entrance towards Barn Pool rather than the buoy. A sheltered anchorage from prevailing westerlies, it offers a café, pub, formal gardens and coastal walks in the Mt.Edgecumbe estate. I often anchor towards the



Passing Royal William Yard



northern end of the stone/shingle beach where there are fewer rocks, using a long shoreline from the stern and my bungee anchor buddy on a bow anchor to pull *Arwen* back off the beach to deeper water.

On a more northerly course towards Stonehouse pool, the flogging mainsail suggests I closed too close with the western shore. I'm struggling to find the wind. A quick flick of the tiller and we move away from the forbidding rocks beneath the Cremyll gun battery to a more central channel position, the red 'Battery' channel marker slipping rather too close for comfort down our port side. As we catch the 8kt SW breeze once more, I wonder whether the tourists admiring the views atop this former seven-gun battery, part of the 1860s inner sea defences to protect the Dockyards ahead, know it was a former royalist blockhouse in the English civil war; or of its important role as a guardroom for the anti-submarine booms during WW2?

11.40. A fast reach towards Cremyll's Mashfords yard for a quick peak inside. Twigs, driftwood, plastic bottles, frayed blue three-strand rope and bits of white polystyrene packaging float by. A saddening sight, only cheered by the appearance of several drifting jellyfish; their pale, translucent canopies adorned with four brown circular markings shimmering in the sunlight.

Making 4.2 kts, I guess that's respectable. Mayflower Marina and the Royal William Yard fall rapidly astern. VHF CH14 chatter suggests no imminent big ship movements out of the dockyard ahead. That's a relief. I idly wonder what Sir John Rennie the original architect of the Royal William Victualling Yard would make of its £60m regeneration – bakery, armoury and cooperage turned into luxury apartments, boutique shops, small businesses and restaurants? I'm almost tempted to call at Mayflower Marina opposite for a coffee. Two hours free pontoon mooring, if you call in at the delightful 'Lazy Jack's café. No, time is pressing, onwards and upriver we go!

Only a dive boat on the Mashfords slipway. There has been a boatyard at this site for 270 years, working on everything from Tamar barges and torpedo boats to fishing and tug boats. It was said that if a captain of a RN ship was presented with a west country crew that had shipwrights trained at this Cremyll yard then he went to sea a happy man!

Gusty winds rock *Arwen* as we leave the shelter of

other side of these mudflats.

Arwen's sails are trimmed and the Huntingford helm impeder set for a long broad reach up to the chain ferries that carry traffic between Torpoint and Devonport. A narrowing channel: I'm thankful I'm not beating up it in a northerly headwind. With extensive mooring trots on the western shore and the start of a long 100m exclusion zone in front of the naval dockyards, the MOD Police get very 'strident' with small craft that close within 100m of any moored frigates and submarines, as I have found to my cost in the past. Without being melodramatic, the police are heavily armed and, rumour has it, sharpshooters are ready on shore!

Tidying sail sheets and halyards into homemade halyard bags, the knot in my stomach grows as I plan my ferry approach. 'Prepare the outboard, just in case. What if the breeze dies?' Self-doubt, I'm always plagued by self-doubt! Winds remain steady, coming across the port transom quarter. I maintain a mid-channel course.

Up past Torpoint Marina with its old ballast pond walls built by French prisoners of war in 1783 to shelter the ballast barges, one of only two surviving ponds in the UK. Two hundred metres astern, a stunning cream-hulled, tan-sailed yacht is closing fast. She'll pass me just as I shoot the ferries. 'I'll be squeezed, no channel room.' Self-doubt! 'Use the outboard, Steve!'

100m to go and an irritating whistling sound pervades the cockpit. I'm nervously sucking air through my teeth. Phew! Release the impeder. Right, two ferries have landed and one is about to pass through the channel centre. I monitor the hand held GPS. Speed 4.2....4.6kts. Without the drag of the outboard, and with tidal assist I'm lengthening the gap between me and the boat behind. I pass astern of the central ferry with plenty of room either side.

No disasters, no losing wind, speed or steerage at a critical moment. My nightmare of passing so close to the ferry that I catch its chains on the centreboard are unwarranted (I know I only have 2ft 6ins draft with centreboard down – but it's MY nightmare, OK?). Most sailors shoot these ferries automatically without thinking or suffering paranoid thoughts. For me, this is another small triumph.

Minor helm adjustments, a Murray Mint to soothe frayed nerves and the flood tide and SW breeze carry us past Yonderberry jetty with its large semi-permanently

the Cremyll peninsula and draw alongside the extensive mudflats of Millbrook and St John's Lakes. I ease the main and head over towards the West Mud channel buoy. No high-speed RIB training by the Royal Navy today, nor porpoise shoaling mackerel into the exposed mudflat shallows. Next time, with more water in the various entry channels, I might visit one of the marina cafés to be found across the

moored fuel tanker. Two of its crew languish on a lighter moored alongside the hull, having an illicit smoke, undoubtedly oblivious to the irony of the scene; for above them, in four-foot-high red capital lettering on the Hull superstructure is the sign 'NO SMOKING'. I check speed and course; best not hang about here too long.

The wooden boat catches up with us just abeam of Weston Mill basin, where HMS *Albion*, the assault ship lies moored, protected by an ever-present MOD boat, holding its station at the basin entrance. *Inanda* is a 25ft, 80-year-old Debden four-tonner, once described by Classic Boat as '...one of the nicest small British cabin cruisers of the 1930s'. Fellow blogger 'Dirtywetdog' is on the last leg of a long, difficult and exhausting voyage bringing her home from Ipswich to her new berth at the Calstock boatyard. After exchanging greetings, I search ahead for my favourite little mooring buoy off Henn Point, silently praying it will be vacant.

0.4nm to go. Off the starboard bow, the slipways of HMS *Tamar* are engulfed in a thick smoky fog as landing craft and hovercraft move about. The overwhelming noise drowns out the sounds of the dockyard downriver. With 2500 employees supporting 400 local firms, the dockyard contributes 10% of the local economy and is still the main Vanguard Sub refitting base and home to seven Type 23 frigates and the Antarctic Patrol ship HMS *Protector*. The Royal Navy is part of the fabric of our fair Ocean City and like most Plymothians, I'm rather proud of this naval heritage.

Passing the buoy to plan our approach, I do a quick gybe and a downriver close reach approach. Too fast — blown off, a mad scramble with mooring pole and a trip over the centre thwart, resulting in a ripped halyard bag and bruised shins. A buoy arrival best described as 'inelegant and flustered'. Another cuppa and restorative cheese and marmite sarnie sooths tattered nerves. This 'no outboard malarkey' is proving hard work. I fill in log book, ping another SPOT message and reach for the sail repair ditty bag. Halyard bag repaired, I search for those annoying bits of fine gravel that scratch *Arwen's* bottom boat-grey anti-slip paintwork and become fascinated by the foot-stirring antics of a lanky-legged heron as it stalks and harpoons small fry in the shallows.

13.40 and the Lynher sandbanks and channel margin mudflats should be covering over. I aim to arrive at Treluggan just on the top of the 5.0m tide around 17.00-ish. Helpful pilotage notes printed off the Treluggan Boatyard website the night before recommend entering the final mile channel up to the yard around 1.5hrs before high tide. I draw only 2ft 6ins or so with centreboard down but I'll stick to their advice and not enter this final channel much before 3.30pm. I pour another cuppa and watch a train trundle over the Brunel Bridge upriver.

I snag the dangling mainsheet on the mooring eye and it sends *Arwen* into an alarming sail around the buoy. Sailing back upriver between two barges and Carew point, I forget about the leeward wind shadow effect of trees and shore and lose the wind. An undignified departure; 'I must get better at anticipating potential pilotage problems'. Still, better to be too close to a

windward shore with room to leeward than on a lee shore with nowhere to go?

Had *Arwen* sailed between Lynher port can to Beggar Island port can (256M 0.4NM) in the late 1800s, she'd have just passed the last 5000 tons wooden three-decker HMS *Defiance*. Built for the Navy in 1861, she never saw service, being instantly converted to a permanently moored new Torpedo and Mines training school off Wearde Quay. *Defiance* Halt on the GWR Penzance-Paddington railway line has long gone, as has *Defiance*, towed away in 1930, so ending 45 years of naval training at Wearde Quay. Do a Google search for old photographs — she was a splendid sight.

Off Sand-Acre starboard channel buoy whilst watching the navy RIBs practising MOB drills ahead, I get a visit from an instructor. 'Could you keep well clear, north of HMS *Brecon* Sir? It's only today sir, they will have grasped it by tomorrow.' I note the emphasis and grin. 'We've had worse Sir, though to be fair I'm struggling to remember when. Take care Sir, lovely boat, where you be going? Treluggan? Ah! Proper boatyard that is...,' and he is away to praise one successful crew and scold another for allowing their fender to drift into small craft moorings. I try not to laugh loudly as with a large splash one standing trainee pointing to a drifting MOB fender, is sent overboard by an over-enthusiastic helmsman who executed a rather speedy turn to starboard. Pithy sarcastic ripostes accompany the splash, but weary, resigned looks on Petty officers' faces say it all. As a retired teacher I feel their pain.

Abeam Forder Lake. 'Don't go in Steve; what if you run out of water Steve?' That self-doubting inner voice again! Another time then, but I drift a moment to admire the views. From early medieval times to the mid-20th Century, flour-milling, fulling, market gardening, lime burning and roadstone quarrying have left indelible marks on this pretty conservation area. 19th Century barges brought dockyard horse dung and street sweepings to the quayside, natural fertiliser for local farmers to carry away in carts. Market garden produce went back down river to the city. SW DCA members have had one or two overnight rallies and annual winter planning meets here.

Beyond Anthony passage, the busyness of the Tamar and lower Lynher slips away and the river channel opens wide. The change of pace and scenery is refreshing. Thin, sinuous, silvery white lines of froth, twigs, leaves and broken reeds mark the advancing tide lines across the sun-bathed mudflats and into lakes and creeks. I cut ties with civilisation, entering an ancient, agrarian landscape of rolling hills, rare Special Site of Scientific Interest (SSSI) intertidal mudflats and wild coastal salt marshes with hidden remnants of a long forgotten industrial heritage.

Winds, now blowing directly down the channel, allow some exhilarating beating upriver. 5.5kts, full sails, slight weather helm, occasional dollops of sparkling spray rising over *Arwen's* bows to be neatly deflected by her high coamings. I hope my 1.5m estimation of water depth over the mid-channel mudflats is right! Tacking back and forth at speed, closer to the channel edges on each successive tack. It's a game, turning at the last

possible moment, then holding a parallel course to the muddy shore to gain a few precious metres' distance further upstream, before rapidly backing the jib and swinging back onto a new tack course. It will end in tears, but who cares! A Cormorant in our path senses the looming danger and takes to the skies, webbed feet sprinting across wave tops and wings flapping furiously to gain momentum and lift.

We suddenly stall, the centreboard drags through soft mud before finding deeper water again. Phew! I've lost my exact position and so heave-to, quickly comparing charts with landscape features. Shillingham Point, the entrance to Wivelscombe Lake and several nice overnight anchorages in the eastern lees of Shillingham and Black Rock Points all lie astern. Oops! I add a position note to the log, ping a SPOT message off and drink some water whilst briefly wondering how on earth the Tamar barge skippers of old ever got their vessels up to some of the old decaying quaysides that line the mud-filled upper creeks of Wivelscombe Lake.

Feeling repentant, jib and mainsail are set for a more sedate beat up channel and I keep a watchful eye on centreboard and sail luff. I'm no longer too worried about grounding, after all it's a muddy bottom and a rising spring tide. I'll float off.

As the afternoon draws on, winds increase and gusts become fewer but much stronger, spilling off the surrounding southern hills. Is it time to reef? 'The first time you think about reefing, that's the time to do it.' I keep a wary eye out for the surface ripples that announce the arrival of stronger wind squalls. We push on!

On the northern hill behind, a glimpse of the four-towered Ince Castle. Built in 1642 at the start of the English Civil War, Sir Henry Killigrew, a royalist MP, added the towers. One for each of his four wives, all of whom, so the story goes, remaining blissfully unaware of their competitors in the other towers. Four wives! He'd have a few tales to tell at a dinner party!

Farmers cut silage in the fine weather, their tractors and trailers criss-crossing the rolling Cornish hills. The throaty rumble of a hidden combine harvester carries on the breeze. I move to leeward; the shade of the mainsail is temporary relief from the scorching sun.

High-pitched outboard motors under strain herald the arrival of four black RIBs, line astern, all big bow waves and long wakes of churning froth. The lead skipper, anticipating my need to tack north, alters course to port, a courteous attempt to give me room and minimise the wake impact on *Arwen*. Royal Marines, sitting low, peering over the sides, heading for their secret beach overnight training bivouac. An arm emerges, a quick wave, from the bowels of the last passing boat. I wave back.

As Warren Point draws close, I anticipate a possible wind shadow effect and swiftly bear away onto a reach that will hopefully take me across to Redshanks Beach and straight up the Erth Hill channel. The tide has filled this sinuous channel but it will still be shallow in the mudflat margins around the various channel marker poles.



Cockpit interior, approaching Erth Island Marsh upper Lynher

Astern, paddle boarders emerge from Wacker Lake, past another abandoned quayside where barges once unloaded limestone and loaded up lime. There are remnants of a tiny military narrow-gauge railway, if you know where to look. Built in 1886, horse-drawn trams hauled building stone from quayside over the hill to the stonemasons' building Tregantle fort on the southern coast. Still owned by the navy, I've seen leisure boats moor off the quay overnight.

14.45. I'd planned a short beaching on Redshank beach for a leg stretch across the saltmarsh, but there are three boats already there. Pity. A small stony beach with three conveniently spaced 2ft high scaffolding poles driven upright into the banks for mooring warps, many a time I've dropped a kedge anchor over the stern attached to my stretchy anchor buddy and then dried out on the beach top with a long saggy mooring warp running around one of the poles and back to *Arwen's* bow cleat. On calm nights, with a small driftwood fire, pre-stripped long green sticks and a few marshmallows, it's a delightful spot to stargaze and listen to the jumping bass and local tawny owls. Overnight, I've floated off the beach and been pulled back into deeper water ready for an early morning getaway.

Between Berry Down and steep-sided Erth Hill, winds die. Wind shadow from the high, steep, wooded shoreline to the west? I didn't anticipate that! Unshipping the oars, removing the steering compass and reaching for the boat cushion, I sit astride the centre case top and lean into the oars. *Arwen* is a wide-beamed, stable, seaworthy boat, able to handle some serious seas, but being rowed long distances is not one of her design attributes. It's hard work and knuckles get bruised as hands collide. Oars are at least 18 inches too short and rowlocks are set 13 inches aft of my seating position but my legs barely reach the aft cockpit floor. With the cushion I'm probably too high; without it, it's a bottom-numbing rowing position. Another winter project then, repositioning rowlock blocks and making longer oars? Or perhaps, I could learn to yuloh scull over the transom. Is that even possible between a boomkin, mizzen mast, rudder stock and outboard bracket?

'No cheating, no outboard, no cheating – no outboard.' My inner voiced mantra is interrupted by muffled laughter from below the treeline on the western



The swivelling signpost to Treluggan

bank. The marines have clearly arrived safely on the secret beach. It feels somewhat comedic that an elite stealth force is betrayed by laughter. The starboard oar crabs the bottom. I've meandered off course into the shallows. How do you row backwards and keep a straight track? Mental note, more practice doing rowing up the river Plym. Can I design a set-up that allows me to row *Arwen* standing up and facing forward? And no, I don't need a smart ass telling me that's called 'yuloh sculling'!

Trying to recall where the main channel meanders, I keep turning to check my position against the marker poles and so painfully crick my neck. To block out the pain I recall a history lesson from my son about the two-storey, late thirteenth century chapel, with its faded medieval wall paintings. It is hidden from gaze, somewhere on Erth Hill, the lower floor, with granite millstone, was a cider press while the upper floor was the chapel. The only known medieval document relating to it dates from 1413. Now a listed building, it is rather hard to find. Probably a good thing too.

I enter the expansive confluence where Sconner and Polbathic lakes greet the River Tiddy and Lynher, with relief and elation as the mizzen flutters. Wind! Yes, wind again. Oars are shipped, mainsail re-hoisted and the faintest of breeze fills it. We move forward at 1.9 kts. I grab a handful of dangling main sheet and pull and ease it accordingly to gain a little more momentum. Now is not the time to keep hauling it through the blocks.

15.50 and the mid-channel vertical scaffold pole that holds the pointy sign saying 'To Treluggan Boatyard' appears. I check its direction, for nautical ruffians often swivel the pole so that the sign points the wrong way and you arrive at St German's quayside on the river Tiddy instead. Not an unsavoury prospect by any means — a beautiful quayside with friendly sailing club, floating pontoon and a stunning Victorian railway viaduct as a backdrop. Half a mile to a lovely village pub, ask nicely and Quay Club members might let you overnight on the pontoon and possibly even open the sailing club bar for a jar or two. Pontoon occupied? Well, just north of

the small slipway is a tiny muddy beach where a small dinghy can slip between running moorings for an overnight stop in front of the limekilns. Contact the Quay Sailing Club, out of courtesy though, to check that it is OK to use the pontoon or the beach before arriving.

Today, the pole is swivelled the right way but I still chuckle whilst fumbling for my yellow notebook and its colour map of channel and waypoints, printed off the Treluggan Boatyard website. New waters for me, it's helpful to line the map up with the channel ahead but I still unship the long-handled paddle from the foredeck and lie it ready on the port thwart, 'just in case!'

With jib furled and mainsail eased out to the starboard shroud, we glide past the first starboard marker pole. The boomkin rattles in its retaining block as the mizzen suddenly switches side and I check it hasn't snagged on the up-tilted outboard engine. With centreboard up fully, we are practically on a downward run and lulled by hot sun, blue skies and a languorous drift upriver, I reach for the binoculars and scan the Erth Island marshes. The lens-compressed view brings the low Devonian slate and grit hills, sessile oak woodlands and muddy reed-fringed creeks closer. A geographical oddity of intertidal mudflats and salt marshes full of motionless white egrets, wildfowl and wading birds; found in an upper ria valley river system, the marsh is out of place. A fascinating oddity.

16.15. Crunch. I fall forward. The grating hull suggests all is not well. No warning thump of centreboard against ground obviously. Allured by the stunning scenery I lost attention and drifted shoreward. The rudder is jammed, the release cleat on the tiller failing in its primary function! 'You idiot! Rule 1 – focus on the course ahead!'

Trapped in my boat by a very disgruntled goose! Serves me right!

Onlooking geese, motionless herons and animated ducks and crows watch the Mexican stand-off play out, from their grassy bank. With my one leg over the side, the goose stands erect, flaps his formidable wings and waddles closer down the mud shingle beach. Both legs over the side and with long neck outstretched ready to bite, goose has a serious attack of the hissy fits. It is a 4ft-gapped Paso Doble dance worthy of 'Strictly Come Dancing'. There is little to do but admire the scenery and pray that the rising tide will float me free. I think those cackling crows on the washed-up tree branch are laughing at me!

Twenty minutes later, the rudder pops up, displaying new grey battle scars where the white topcoat has been scraped away; another winter project then! Goose has retreated to the beachhead grassy knoll to be fussed over by his admiring flock. I'd marooned myself on the

last remnants of an old quay wall, lowered in height by centuries of accumulated mud. A few rotting wooden posts had betrayed its position but I didn't see them.

Paddling *Arwen* out into deeper water, I raise mainsail once more and the gentle breeze sees us around the river bend, where I narrowly avoid the mid-channel stranded tree trunk. Through looming railway viaduct arch spans, I spy the first of the moored live-aboard barges. 'Treluggan, nearly there....no motor!' I whisper to myself but the inner pep talk isn't having the desired effect. That gnawing sensation in the pit of my stomach is growing. 'Please God, don't let the wind drop; don't let me ram the viaduct.'

The purple-coloured brick parapets with their sprouting clumps of buddleia draw closer, white lime streaks adorning their curved arch ceilings. I check the yellow pilotage book. Of course, there is plenty of clearance, it's obvious! But I need that reassurance. The middle span is marked as the fairway channel. I'm beginning to drift, the sails barely filling. I caress the paddle along the port thwart, feeling it's comforting presence. 'Faith, me boy. Wind and tide will carry.'

The main sags, the sprit boom sinks and swings slowly inward. Ten metres to go. Five metres. The trees on the western bank are causing a wind shadow. Didn't anticipate that! I shiver involuntarily as the parapet shadows fall across *Arwen*. A small two-coach train rumbles overhead.

And we are through. Barely, but we have emerged, unscathed. A saltmarsh appears on the western shore; ahead, aluminium masts shimmer between the trees. We draw alongside what appears to be an old WW2 motor torpedo boat, its decks shrouded under white awnings and metal frames. Beyond its stern, the old wooden pontoon appears.

Whoosh!

At 57, I'm delighted by my lightning-quick self-preservation reactions. Unnoticed by me, the mainsail had slowly switched over to the port side as we shot the viaduct arch and now out of the wind shadow cast by hill and viaduct buttresses, it viciously shoots across the boat, clearing my head by a mere inch or two. I head-butt the cam cleat on the rear of the centreboard case. It hurts somewhat and whilst I am sure I haven't

fractured my skull, a deep impression of a cam cleat on my forehead is going to prove embarrassing when I arrive at the yard office in a few minutes' time. I rub the affected area gingerly. Its tender! 'Check the sails, check the course, check the sails, check the course – muppet!'

17.25, less than 50m to go, one vacant space on the pontoon behind an old large rubber RIB that has seen better days. That green and white starboard marker pole is awfully close, showing how narrow the channel is here and despite the water reaching well beyond it, I vaguely remember seeing a very steep 2.5m muddy bank beyond it on Google Earth. It's high tide, I could continue upriver and quickly seek out the excavation site of the old 'Lynher' barge up at Poldrissick but will I be able to turn up there? The story of how Charlie Force discovered and excavated the Barge is inspiring. I have pushed my luck far enough today. This far upriver, tide is about to drain away very quickly. Time to stop.

Small fenders are deployed over the port side. 'No paddle, no outboard.' I chant a little mantra to myself as we sidle down the moored boats. 15m... 10m... Barely a breeze, I'm ghosting. The RIB's stern falls halfway along *Arwen's* beam and with a quick flick of tiller to starboard, we move forward into the gap on the pontoon, the boomkin clearing a RIB stern tube by inches. Barely a bump. Awesome!

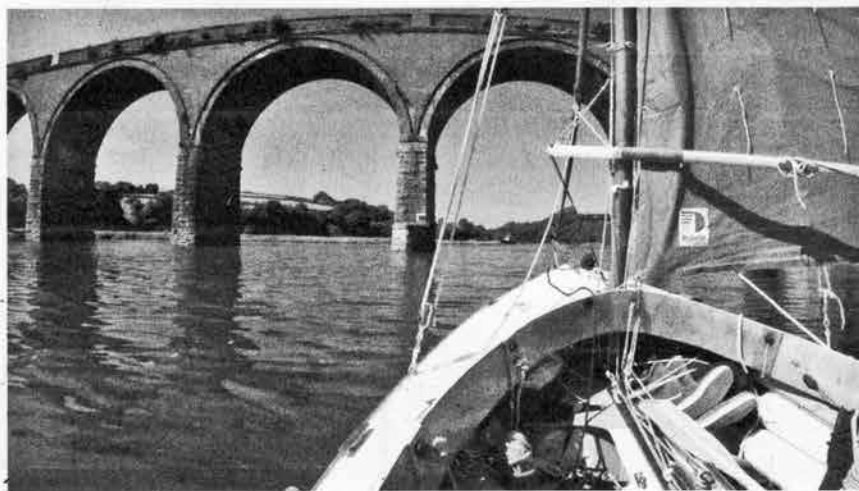
Mainsail drops neatly between lazy jacks, a quick haul on the topping lift elevates boom and sail out of the way. Rudder released and a quick clamber over the centre case grabbing coiled stern and bow warps on the way. I step ashore and secure *Arwen*. Textbook arrival.

From the Cattedown to Treluggan without the use of the outboard. 'YES! RESULT! Get in there!' Of course, I didn't embarrass myself by hollering this out loud but inside I was screaming it! For normal sailors this would have been a simple, unremarkable voyage. For me? It's an achievement. No outboard. BOOM! I discount using the outboard in and out of Sutton Pool – ever seen the chaos that ensues when small boats try to sail out of the marina and beat into the Cattedown? I rest my case!

Little niggle – what have I forgotten? Of course, high spring tide – how deep is the pontoon? How much slack do I need to put in the warps? I add four feet of slack and stern and bow spring lines to prevent me backing down

onto the RIB when the tide ebbs. Probably overkill, but I shudder at the thought of explaining how the boomkin pierced the RIB chambers during the night. Ugh! Fenders are repositioned. Paranoid, I'm always paranoid.

Graham, the yard manager strolls down. 'Saw you arrive on the camera. Welcome to Treluggan. Just came down to warn you – you'll need around 4ft extra slack in your mooring warps on this tide. Don't want to find yourself hanging at a crazy angle come low tide, do you?' SP



Approaching the railway viaduct before Treluggan



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Surviving FLICKA's Capsize

Part 2

On June 20, 1979, while sailing in a qualifying race for the OSTAR (Original Single-Handed Transatlantic Race), Jan Gougeon's self-designed and built 31' trimaran FLICKA was capsized by heavy seas in the North Atlantic. Jan survived on the overturned plywood/epoxy multihull for four days before he was rescued by a passing freighter. The following is the second half of a transcript of a phone call between Jan, his brothers Meade and Joel, as well as fellow multihull designer/sailor Mike Zuteck. Their discussion takes place on June 26, 1979, just hours after the freighter that rescued Jan delivered him to dry land.

FLICKA was never recovered.

We've divided their lengthy discussion into two parts. At the end of Part 1, Jan described the feeling of leaving FLICKA behind after his rescue. In this installment he goes on to discuss the failure of his EPIRB unit, what he learned from surviving FLICKA's capsize, and his conviction that all multihulls should be self-rescuing.

Meade Gougeon: Weren't the outriggers holding it up pretty good though?

Jan Gougeon: Oh, everything was perfect, yeah. No, the boat to this second—if someone would go out there and get it—all they'd have to do is patch two holes and the boat is perfect, outside of I removed a couple of pieces of the furniture inside to make things. But the boat is structurally, absolutely flawlessly, beautiful. As a matter of fact, I took the time yesterday—while I was stringing up this thing—to look at the A-frames. I was concerned about the A-frames being loaded that way. I was thinking of unbolting one outrigger and trying to right it. But I didn't want to take the chance of losing what I had as a good survival platform. I mean it was perfect. I had it so perfect for surviving in that I

figured if I had to stay there for a month, I was going to be able to handle it.

If I ever tried to start unbolting stuff, the chances of something hurting me... As soon as I ever got an arm broken or something, I'd die. You know I knew that. Or even a bad cut or something. I couldn't take many chances. Even though the water was warm, when I worked on the boat I put on my wet suit and boots and anything I could to protect myself so if I fell I wouldn't cut myself.

Meade: Anyway, [boat designer] Damian McLaughlin called and said that the waves in the Gulfstream were running 35 feet.

Joel Gougeon: He said that every twentieth wave was running 35 feet.

Jan: Well I'd say, I never went across the Gulfstream then, that it was good I didn't sail there. I would say at that point, on a trimaran unattended, the only way that it would survive—and I say any trimaran will survive almost anything if you have a sea anchor to keep the nose into the waves—I don't think anything will get it. That's my feeling right now.

Meade: How about going downwind with it?

Jan: Downwind would be no sweat. But I think that going head-to-wind, the problem with [going] downwind is you need a person to steer it.

If you had a head-to-wind, the bows are nice and fine and the sea will kind of crash over it, but it would never tip over.

Joel: How high were [the seas] running when it flipped over?

Jan: Oh, I'd say the [wave] that tipped me over was probably 14 feet. I didn't see it but it was bigger than the rest. I didn't want to get into the Gulfstream because I knew it would just, you know. It was death. It would be death.

Meade: But you had the mast up with some sail area on it, though? You had a double-reef main?

Jan: Double reef main, the mast feathered in the wind. If only I had stayed up and sailed it. I ain't kidding you, the boat with that rig will sail to weather in 50 knots of wind with ease. No problems at all if you're steering it. As long as you're steering it, it's not a problem. As soon as you go to bed though, the boat can't take care of itself. It needs a sea anchor.

Boy, the first two days I had such a fabulous sail though. So fabulous you wouldn't believe it. It's something like you dream about. Like cross country skiing only it's always downhill. Fantastic, man. It's going off the wind and the genny, about half the jib rolled out and one reef in the main. The boat would get on these waves and you'd surf for maybe four or five minutes, going like hell, just beautiful control. And it would hit the next sea and the shape of the outriggers and everything worked so beautiful. There was never even any tendency of nose-diving, never any want to broach, nothing. Unbelievably controlled.

Meade: Did you have the boards down?

Jan: The boards were down. When I was hove-to I had the leeward board all the way down and the windward board up to keep the nose into the wind. The boards up and the boat sitting to beam would never work. The boat never even started to want to go sideways, it just went straight up and flipped over. It was like someone stuck a stick under me and pushed up in the middle of the boat. It's absolutely treachery to lay beam-to. Not the way to do it. And the weight of the boat doesn't matter. It doesn't matter if it weighs 4,000 pounds at that point. See, what happened when the boat was upside down with the cabin full of water it, was more like a catamaran with the two hulls far

apart. All of a sudden that gets real stable in the waves. I think of it like a proa*, the main hull is actually a nuisance when you're beam-to, it shouldn't be there, it's something for the waves to hit.

I haven't got money problems at all. There's no hassle that way. I even saved my American Express card, I mean, believe that? It's still in my wallet. They make them out of pretty good stuff. Whatever it is, it held up pretty good.

My ultimate, ultimate point of depression though was standing on the bridge watching my boat disappear behind the ship.

Meade: You had to be pretty happy to be alive though, Jan, didn't you?

Jan: That's what I told the captain. I said, "I still have two hands and I can build myself another boat." A little bit of plywood and some staples and glue and you get another one.

I've had so many great gobs of things to contribute to any of these guys going out to sea on what they should do to be ready, though. If they'll listen to me and believe me, anyone who does all the things that I tell them will always come home again. It's so simple to come home again if you do these few things. Almost any trimaran can have these particular qualities that my boat had. It's obvious what the flaw is when the boat is beam-to. The main hull just displaces. It's 30-feet long and the wave immediately moves the boat because it displaces the entire length of the boat, you know what I mean? So immediately the boat starts going up. Well, when the boat meets the wave head-on, the wave can go right up to the sheer of the boat and it only displaces a small percentage of the weight of the boat because of the shape of the wave.

Nothing happens to you head-on. But [a wave approaching] beam-to will flip you. Every trimaran I can imagine is afflicted by that. The beam is everything right then. The distance between the main hull and the outrigger is the whole key. Because the angle that it finally gets at is less, but the displacement of the outrigger means nothing. The outrigger didn't even—as a matter of fact, the boat didn't—it took a side slam after it got up in the air. It dropped, and when it tipped over I

* proa - a boat with a single outrigger/ama

thought that the outrigger had actually busted underneath. That it had busted the ends of the beams off is what I had the feeling had happened. But when it was upside-down it seemed to be floating pretty level and so the seas weren't hitting the main hull. I couldn't see out at that point, so when I cut [my way] out, I of course cut on the side of the main hull. I looked and everything was still there. All the boards and everything were still operational and everything was like brand new.

Meade: So you didn't lose any of the stuff out of the inside of the boat?

Jan: Well, I lost all the canned foods. They were gone instantly. Anything that sank got sucked out of the main hatch as fast as it could. But all of the rest of the food... I had a lot of dried food and packaged food that was stored in these little bins and stuff. Another key thing is you've got to have some covers on the bins so the stuff doesn't fall out. But I grabbed stuff as fast as I could. I mean, the fabulous cuisine of the transoceanic I could see glowing underneath the saltwater. I immediately grabbed the [fresh] water—first thing—and then the food was next and tools. As fast as you can grab stuff, you grab it. I'll tell you, the really scary thing would be tipping over in the dark.

Joel: What time was it when you flipped over?

Jan: It was about four o'clock, I think.

Joel: Oh, in the afternoon.

Jan: Yeah. My [wrist]watch worked through the whole thing. But, anyway, I looked at my watch. As a matter of fact, I kept a log of

the whole thing. But [when] I left I didn't grab it all. I even had the log right up to the point I tipped over. It went down. I was working out the sight and I had paperwork of the sight. I saved that, but left it all on the boat when I ran out of there. Some of the—

Meade: You actually summoned the freighter? The guy saw you though? You didn't call him on the radio you just...

Jan: No. I didn't have a radio.

Meade: He just saw you.

Jan: He saw me, yeah. I stood on the bottom and I had on a yellow—you know what you call it—and everything.

Joel: What about that Nicro beeper or whatever the hell it was?

Jan: Oh, let me tell you about the Nicro beeper. I mean, [it was only] worth a few minutes.

Meade: The EPIRB [Emergency Position Indicating Radio Beacon]?

Jan: Yeah, the EPIRB, right? OK, the first night I flip over I'm upside down. I figure, tonight I'll turn on the EPIRB and tomorrow they'll come and pick me up, right? So I turn on the EPIRB and I hang my [man overboard] strobe light outside. I put the EPIRB out there and the red lights on. Come morning, I notice that the little red light is out on the EPIRB. I bring it back into the cabin and the thing is real warm. So I tear it apart. Inside is a big cloud of smoke. One of the wires has gotten pinched and the thing was shorting out. I take it all apart and carefully scrape off all the stuff. I get the EPIRB back together and it lights up again. I don't know whether it is broadcasting or not anymore. The thing failed. It's supposed to work for eight days. I don't think it ever—probably ever in its life—broadcasted a signal. So that was just all false security.

Mike Zuteck: That's too bad.

Jan: The VHF radio thing, you can hear them talking and stuff so you know it's working. You know you can talk to them. And if they don't answer you, or if they answer you and it's garbled, at least someone is hearing you.

The self-rescuing catamaran, WILD CARD. It was the first hull built of the G32 series designed by Jan and Meade Gougeon.



Joel: Yeah, having a good radio onboard would be the way to go.

Jan: You can't have a regular radio because that gets underwater and it depends on the ship's battery. You've got to have a handheld VHF. You know, the little handheld job that I was looking at, the six-channel one. That's the only way because the regular radio is operating on the ship's battery and those are gone. I had big piles of flashlight batteries, so in the back cabin I had a workshop made and in one of the little areas was a work table. I tore the EPIRB apart and cleaned out all the burned crud in between the little jobbers, figuring I could maybe save it. I tore the EPIRB's battery pack apart to count how many batteries were in it to figure out the voltage, see. When I figured out how many volts it was, I hooked all these flashlight batteries and stuff together to get the right voltage. Among great sparks and smoke, nothing ever did EPIRB again. So I gave up that idea and I figured maybe I could start cutting parts of the boat off and light them [on fire] and let them drift.

Joel: Well, when you were in the back cabin it was fairly dry there?

Jan: Yeah, I was high and dry. Well, there was some surge that would splash in there once in a while, so I took one of the tables and I cut it to fit in there with a towel. I measured about 38 times and I made this line. It was one of those fits where you have only one shot at it because it is going to take you four hours with a hacksaw to cut it. I cut it, put the towel around it, drove it in there with the winch handle. The forces of God would never have moved it. It will be there until the day someone finds the boat and salvages it. They'll just have to put up with that piece of wood in there because that's how tight it's driven in there. And no more water ever got in the back compartment, outside of the window leaking a little bit. The window would have been a nice strong window. It would have stayed dry forever, fully waterproof. Absolutely fortified there. Absolutely, the answer to survival is the place where it's dry. You've got to stay dry and out of the water. After the first day, the sleeping bag got kind of wet. But during the day when it was kind of calm for a while, I opened up the picture window in my back cabin and dried out the sleeping bag.



I took the other table-half with the little pin sticking out, wrapped line around the pins, then cut holes in the side of the boat with my jackknife. I tied the lines around it. I could tie it down at night real tight. I stuffed all my extra clothes in it so that water wouldn't leak through the cracks in the cabin. I've got a pretty good report written for the Coast Guard that I got a copy of. I'll bring that home.

SPLINTER, the first self-righting trimaran designed by Jan after his capsize. Photo from a race on the Saginaw Bay in 2019.

Great amounts of stuff learned in the multihull thing. It's not a dead cause yet. The fact that I survived, the only thing that I won't do, I mean, the criteria for my next boat is it's still got to be fast. But it's got to be self-rescuing. And it's got to be able to be hauled behind my Honda. That's the criteria.

Editor's Note

Jan would go on to design his first self-rescuing 25' trimaran, SPLINTER, launched in 1980. SPLINTER placed first in the Port Huron to Mackinaw Race in 1981, 1982, and 1983, and also set a record for fastest finish. Built of plywood and WEST SYSTEM® Epoxy, SPLINTER is still racing on the Saginaw Bay 40 years later.

Jan went on to design and build the 35' trimaran OLLIE; the trailerable GOUGEON 32 catamaran; and the folding, trailerable 40' catamaran STRINGS. After FLICKA's capsize, every sailboat Jan designed featured self-righting capabilities. All of Jan's sailboats continue to compete on the Great Lakes today.

Jan passed away in 2012 and was inducted into The National Sailing Hall of Fame in 2015. We miss him dearly.

Portsmouth, Virginia

The Coast Guard has discovered and halted the voyages of at least five illegal charters discovered across the Mid Atlantic since July. An illegal charter is a pay for hire operation where boat owners or someone they hire take passengers on the water without the proper credentials and, in some cases, without proper safety gear or inspections. All charter boat captains who take passengers out for hire are required to have proper credentialing and licensing. The vessel's activity, size and number of passengers determines the inspection requirements of the vessel.

Illegal charters pose a danger to the public as, without the proper credentialing, licensing, certified safety gear, emergency plans and drug screenings in place, consumers may be hiring someone who is underprepared to safeguard them in emergency situations when they believe they are hiring a professional mariner for things like tours, excursions or fishing trips. In addition to potentially endangering the public, illegal charter operations undercut legitimate businesses.

"The recent increase of illegal charters in the Maryland National Capital Region is a serious issue. Illegal charters pose a significant hazard to life, property and the environment," said Lt Cmdr Sonha Gomez, Chief, Investigations Division at Coast Guard Sector Maryland National Capital Region. "As a boat owner or operator, you are expected to comply with applicable State and Federal regulations to ensure safe operations for patrons."

"Charter boat patrons should request to see the Merchant Mariner Credential of the boat operator to verify proper operation of the vessel," said Gomez. "Prior to paying for a charter, patrons should become familiar with bareboat charters to ensure all parties are safe."

Ten vessels were issued Captain of the Port Orders from the Coast Guard Sector Maryland National Capital Region over the past year. Failure to comply with the order is punishable by a civil penalty of up to \$94,219 for each day the vessel is in violation. Willful and knowing violation of this order is a class D felony, punishable by up to six years in prison (18 U.S.C. 3581) or fines of up to \$250,000 for an individual or \$500,000 for an organization (18 U.S.C. 3571).

Members of the public who suspect someone is operating an illegal charter should call their nearest Coast Guard unit. Members of the public who have licensing questions may call the Coast Guard at 1-888-427-5662 or 1-888-IASKNMC.

Miami, Florida

The Coast Guard terminated two illegal charters out of Miami. A Coast Guard Station Miami Beach 45' Response Boat-Medium boarding team boarded the vessels *I Need to Relax* and *Sea Devil* and discovered the following violations:

Violation of 46 C.F.R. 176.100(a) for not having a valid Certificate of Inspection.

Violation of 46 C.F.R. 15.515(b) for not having a credentialed mariner in control while operating as a small passenger vessel.

Violation of 46 C.F.R. 170.120 for failure to have a valid stability letter.

Violation of 46 C.F.R. 16.201 for failure to have a drug and alcohol program.

Violation of 46 C.F.R. 15.401(a) for failure to employ an appropriately credentialed mariner.

Violation of 46 C.F.R. 67.7 for failure of



Our Coast Guard in Action

a vessel of greater than 5 gross tons to have a Certificate of Documentation while in coast-wise trade.

A Captain of the Port order will be issued to each vessel operator. Owners and operators of illegal charter vessels can face civil penalties of \$60,000 or more for illegal passenger for hire operations. Charters that violate a Captain of the Port order can face over \$95,000 in civil penalties. Some potential civil penalties for illegally operating a charter vessel are:

Up to \$7,846 for failure of operators to be enrolled in a chemical testing program.

Up to \$4,888 for failure to provide a Coast Guard Certificate of Inspection for vessels carrying more than six passengers for hire.

Up to \$16,687 for failure to produce a valid Certificate of Documentation for vessels over 5 gross tons.

Up to \$12,219 for failure to have been issued a valid Stability Letter prior to placing vessel in service with more than six passengers for hire.

Up to \$95,881 for every day of failure to comply with a Captain of the Port order.



When is a Bareboat not a Bareboat?

The Coast Guard terminated an illegal charter near Tierra Verde when Coast Guard investigating officers boarded the *Bada Bin*, a 47' boat that was operating as a bareboat charter with ten passengers onboard. After investigation Coast Guard officers terminated the charter's voyage and escorted the boat and passengers back to the marina.

In a "bareboat" charter contract, the person who rents the charter must be given the option to hire any captain of their choosing, or operate the boat themselves. If a bareboat renter is assigned a captain without any options, the "bareboat" charter designation no longer applies and the boat is deemed an uninspected passenger vessel, which is exactly what happened in the *Bada Bing* case.



San Juan, Puerto Rico

The Coast Guard, Navy and US law enforcement partners seized 225 kilograms of cocaine and apprehended three suspected smugglers following the interdiction of a drug smuggling go fast in the Caribbean Sea. Two suspected smugglers were Dominican Republic nationals and one was Colombian, while the seized cocaine had a wholesale value of approximately \$6 million.

"The strong relationship and collaboration between the Coast Guard and the US Navy continuously yields positive outcomes as evidenced by this case," said Rear Adm Eric Jones, commander of Coast Guard Seventh District. "The shared unwavering resolve and daily interaction between our Department of Defense and local and federal law enforcement partners in the region help safeguard and strengthen the Caribbean region against this threat. We are committed to the protection of our nation's southernmost maritime border and of our fellow citizens in Puerto Rico and the US Virgin Islands."

During a routine patrol in support of Joint Interagency Task Force-South's mission to detect attempts to transport contraband into the US and partner nations, the *USS Kidd's* (DDG 100) helicopter crew sighted a suspicious go fast vessel in the Caribbean Sea. The *USS Kidd*, an *Arleigh Burke*-class guided missile destroyer operating with US Coast Guard Law Enforcement Detachment (LEDET) 401 onboard, coordinated with the Coast Guard Seventh District to interdict the suspect vessel.

The helicopter crew observed the suspected smugglers jettison multiple bales into the water as the go fast continued to evade capture. The *USS Kidd* successfully interdicted and boarded the go fast with the assistance of the CG LEDET 401. The *USS Kidd's* crew and CG LEDET 401 apprehended the

suspected smugglers and recovered eight jet-tisoned bales from the water. The seized contraband tested positive for cocaine.

The Coast Guard Cutter *Resolute* (WMEC-620) embarked and transported the suspected smugglers and seized contraband to San Juan, Puerto Rico where awaiting US Customs and Border Protection (CBP) officers, US Immigration and Customs Enforcement (ICE)-HSI and DEA special agents received custody.

Cutter *Resolute* is a 210' medium endurance cutter homeported in St Petersburg Florida. The *USS Kidd* is homeported in Naval Station, Everett, Washington.

The interdiction was the result of an international, multi agency law enforcement effort in support of Operation Unified Resolve, Operation Caribbean Guard, Campaign Martillo (a joint, interagency, 20-nation collaborative counter narcotic effort) and the Caribbean Corridor Strike Force (CCSF), and will be prosecuted by the US Attorney's Office for the District of Puerto Rico.



Alameda, California

The Coast Guard seized approximately 1,395lbs of cocaine in late July with an estimated value of \$24 million from a go fast vessel in international waters of the Pacific Ocean off Central America. A maritime patrol aircraft spotted a suspected smuggling vessel and diverted the crew aboard the Coast Guard Cutter *Bertholf* (WMSL-750) to the go fast vessel's position. Once on scene, *Bertholf's* crew launched a small Unmanned Aerial System (sUAS) to locate the suspected smugglers. After the suspected smugglers complied with orders to stop their boat, the Coast Guard crew boarded the vessel and discovered approximately 1,395lbs of cocaine. Three suspected smugglers aboard the vessel were detained.

On April 1, US Southern Command began enhanced counter narcotics operations in the Western Hemisphere to disrupt the flow of drugs in support of Presidential National Security Objectives. Numerous US agencies from the Departments of Defense,

Justice and Homeland Security cooperated in the effort to combat transnational organized crime. The Coast Guard, Navy, Customs and Border Protection, FBI, Drug Enforcement Administration and Immigration and Customs Enforcement, along with allied and international partner agencies, play a role in counter drug operations.

The fight against drug cartels in the Eastern Pacific Ocean requires unity of effort in all phases from detection, monitoring and interdictions, to criminal prosecutions by international partners and US Attorneys' Offices in districts across the nation. The law enforcement phase of counter-smuggling operations in the Eastern Pacific Ocean is conducted under the authority of the 11th Coast Guard District, headquartered in Alameda. The interdictions, including the actual boardings, are led and conducted by members of the US Coast Guard.

The Coast Guard Cutter *Bertholf*, homeported in Alameda, was commissioned in 2008.



Miami, Florida

The Coast Guard, along with Air and Marine Operations, US Customs and Border Protection, halted a migrant smuggling operation approximately 14 miles east of Haulover Inlet. A CPB AMO aircraft crew spotted a 25' pleasure craft traveling approximately 14 miles east of Haulover Inlet and vectored two CPB surface asset crews to the scene. The CPB crews embarked 11 Haitian males, four Haitian females, one Bahamian male, one Bahamian female and transferred them to the Coast Guard cutter *Manatee*. The smuggler was transferred ashore and the interdicted migrants were repatriated to Freeport, Bahamas.

The Coast Guard has interdicted approximately 402 Haitian migrants who have attempted to illegally enter the US via the maritime environment in fiscal year 2020, which began October 1, 2019, compared to 885 Haitian migrants in fiscal year 2019. These numbers represent the total number of at sea interdictions, landings and disruptions in the Florida Straits, the Caribbean and Atlantic Ocean.



San Juan, Puerto Rico

The Coast Guard cutter *Joseph Doyle* repatriated 52 migrants to a Dominican Republic Navy vessel following the interdiction of an illegal migrant voyage west of Cabo Rojo, Puerto Rico. While on a routine patrol of Mona Passage the crew of a Coast guard HC-144 Ocean Sentry marine enforcement aircraft detected an illegal migrant voyage approximately 30 nautical miles west of Cabo Rojo. The cutter *Joseph Doyle* responded to interdict the suspect vessel while a Coast Guard HH-65 Dolphin helicopter from Air Station Borinquen was launched to provide rescue support overhead. Shortly hereafter the cutter *Joseph Doyle* arrived on scene and, with the assistance of the cutter's small boat, stopped the 20' makeshift craft that was transporting 48 adult men and four women who claimed being Dominican Republic nationals. The crew of the cutter *Joseph Doyle* safely embarked the migrants for safety of life at sea concerns.



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Inland Waters

The Bonnet Carre Spillway was originally developed to divert excess water from the Mississippi to Lake Ponchartrain at approximately 250,000 cubic feet per second. The concept is ancient in design. It consists of 350 bays that hold 30 wooden timbers that are added or removed by a large crane. It was needed eight times since 1928 but it has been necessary to depend on it seven times since 2008. And it was used each year for the last three years in a row.

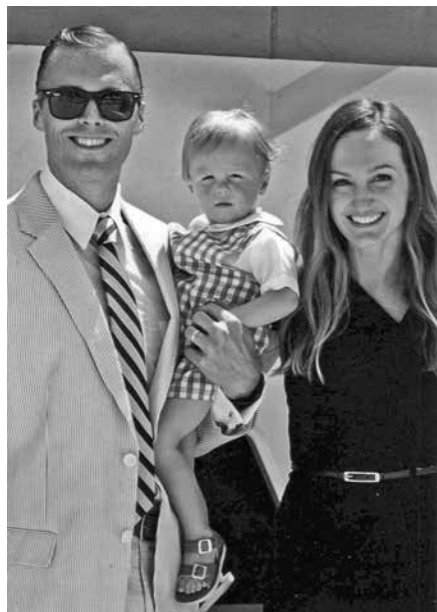
Louisiana is suing the Army Corps of Engineers to request that additional environmental means be used to mitigate flooding. The state emphatically denied any criticism of the Corps, however, they posit that more spillways, diversions and plant life be considered.

I was practically raised on the Mississippi River. My grandfather, Dr Roy Wheat, had a boat in the Lansing, Iowa, marina and we weekly toted a sack of Hamm's Beer, Nehi Strawberry pop, a ring of bologna and some crackers to the boat to run up and down the main channel, explore the backwaters and occasionally drown worms in what we called "fishing." One of the delights for a boy was watching the barges head up and down river. I tried to remember the names of the towboats and even purchased a small book listing towboats so I could check off which ones I had seen. I still love watching the barges go through the locks.

Blessey Marine services was featured in *Waterways Journal Weekly*. Walt Blessey was an oil trader who hated his work and his boss so he threw in the towel and started his own marine service company with one employee. His company grew swiftly due to Blessey's treatment of staff, service and attitude. Blessey added 38 vessels over the last ten year period.

Daniel Wisner, Vice President for Crewing and Logistics, came to the company 12 years ago after his stint at LSU. Starting as a deck hand, he worked diligently toward his present position and wisely married the boss's daughter Elizabeth. Even better for him, she's a doctor specializing in childhood allergies.

Daniel and Dr Wisner with son Thomas.



Over the Horizon

By Stephen D.
(Doc) Regan

Blessey's newest towboat is the 2,000hp *Daniel Wisner*. This beauty includes two Cummins QSK 38 main engines coupled to Reintjes WAF 536 reduction gears that contain internal hydraulic multi disk shaft brakes. John Deere generators provide service power. She boasts a 40 ton Patterson deck winch and she carries 3,200 gallons of fuel, 220 gallons of hydraulic fluid and 18,000 gallons of water. She was built at Verret Shipyard in Louisiana.



The 2,000hp towboat *Daniel Wisner*.

I called Blessey for some information on its VP and his namesake boat. The attitude of the company comes shining through the phone lines. The person who answered the phone was very helpful and nice. She directed me to additional people who couldn't have been more helpful to a grumpy old man too early in his morning. I spoke with Mr Wisner who was equally pleasant and we enjoyed some tales of our children (his is two years old and I told about my 40 something son when he was two).

Gray Fleet

After years of watching the brilliant minds under the Great Dome, nothing should be a surprise. God created irony just to have fun watching Congress at work. A good old boy from the South passes the Civil Right Act and the Voting Rights Act, a president is almost run out of office for messing around with an aide when most of his predecessors had mistresses and now the Democrat controlled House Armed Services Committee wants more money for the Navy and the Republican controlled Senate Armed Services Committee desires less money for shipbuilding!

The House ASC Defense Spending bill includes \$2.5 billion for shipbuilding, that is good news for General Dynamics' Electric Boat company which is constructing several submarines including the USS *Iowa* (SSN-797). EB and the Five-Sided Center of Wisdom have some disputes over exactly what was ordered in the past and how it was going to be paid for. Currently all work on *Iowa* is cancelled in order to fulfill timelines for the *Hyman Rickover* and the *Oregon*. Each point fingers at the other. Evidently EB is short on facilities to build as many submarines at the same time as they thought. Trust me, it will

work out in the end but delivery has been pushed back at least one year. Not unexpected.

Meanwhile, on the other side of the Capitol the Republican controlled Armed Services Committee wants to limit shipbuilding cost to \$1.4 billion. The GOP wants restraints on Defense Department spending and the Dems want to expand it. Did they just swap souls?

Politics during an election year is humorous when topics of significant national concern over the essence of American Values and the American Way of Life give way to the frivolous, unimportant and inconsequential subjects that haven't been worthy of attention for the last century. At the local level we see political debate about whether horses should be allowed in downtown. A topic that was interesting in 1920 but resurfaces in 2020 when an Amish family moved into the county. Forget about roads, taxes, schools, parks and recreation, etc.

The Senate (Republican controlled) put into their Defense Budget a demand that all Confederate symbols, names, flags, etc be barred from the US Navy. Isn't that supposed to be a Democratic theme? Anyway, the USS *Chancellorsville* (CG62) is under scrutiny because it was named after a Confederate victory in the Civil War.

The GOP wants the name changed. They also want the USNS *Maury* renamed, explaining that this ship was christened in honor of Matthew Maury, a Confederate oceanographer. Common sense indicates that one should not hold their breath on these changes. On the other hand, when was common sense a product of Washington, DC?

USNS *Mercy* (T-H-H-19), the hospital ship stationed in San Diego, sailed to Spokane, Washington, to help with the Covid 19 pandemic after the Governors of California and Washington requested assistance from the President. Complications include the scheduling of the *Mercy* for drydock and major overhaul that now is postponed, and the Navy is short on doctors, nurses and medical personnel necessary to fully staff both hospital ships (the other is on the East Coast). USNS *Comfort* was also in overhaul mode when she was sent to New York.

An oddball looking ship, the USS *Herschel Williams* (ESB-4) commenced her first mission in the African Command to combat pirates and support Special Operations activities. Crewed by 100 sailors and 44 civilians, this ship looks like it has a stern and a bow but nothing in between. Actually, there is a four helicopter flight deck that is supported by I beams attached to the keel. Her duties include low level jobs like evacuations to higher importance warfare. She is considered a do it all kind of ship that is especially needed in AFRI COM. She is named after Herschel (Woody) Williams, a Medal of Honor recipient.

Back in the Good Old Days the Navy's internecine war was between the Black Shoe Officers and the Brown Shoe Officers. Regular surface and submarine sailors wore black shoes, but the aviators wore brown shoes with their kaki uniforms. They were also called the Gun Club vs the Fly Boys. During World War II the battle between the surface Navy and the carrier Navy was bitter, career ending and unmitigated. The Brown Shoes demanded that all carrier captains be qualified flyers. Unfortunately, pre war promotions went to the Black Shoe guys and so the high-ranking officers were Gun Club



The oddball looking *USS Herschel Williams*, considered to be a “do it all” kind of ship.

types (think Nimitz, Fletcher, Spruance, etc). CNO/CinCus Admiral Ernest King was a flyer and was behind the aviators 100% eliminating admirals right and left to advance his wing walkers.

The current Navy still has internal wars but there are several maws that demand feeding: Aviation (carriers), Surface Warfare (most of the rest of the fleet), Submarines, Cyber (electronic intelligence, surveillance and electronic security) and Unmanned Vessels. It is the latter that is making waves in Congress.

The big push is for three types of Unmanned floating “things:” Large Unmanned Surface Vehicles (LUSV), Medium Unmanned Surface Vehicles (MUSV) and Extra-large Unmanned Submersible Vehicles (XLUSV). The arguments supporting use of this high tech medium of weaponry are incredibly robust. They are fairly inexpensive, have long endurance without support, reconfigurable for different missions and are stealthy.

The LUSV are between 200-300’ in length with a displacement of between 1,000 to 2,000 tons. Heavily configured for missiles, they can be anti air to surface counter-threats as well as carry out any assignment requiring missile usage.

The MUSV are 45’ to 90’ in length and typically displace about 50 tons. Due to being stealthy, these are purported to be key to intelligence gathering, surveillance, reconnoitering and electronic warfare.

The XLUSV simply is a submarine without a crew. Obviously, these new technovessels are the wave of the future and they have the older fashioned Navy Gold Braids in a tizzy.

White Fleet

White Fleet ships remain at anchor awaiting some direction from the Center for Disease Control. The original starting date was September 30 but Norwegian Cruise Lines announced that none of her ships will sail before the end of October. Regent Seven and Oceania Lines followed suit immediately. Princess Cruise won’t run before December. Carnival is holding off the longest and probably will not embark passengers before the spring of 2021.

Disney, being hit with some cash flow issues, looks to be the first out of the gate this autumn. Royal Caribbean is leaning heavily toward Disney’s dates. I wonder if my little Potter 15 could make the trip to St Thomas? As previously mentioned, cruise line companies are desperately holding on for dear life. All have sought some semblance of loans and many have sold older ships. Carnival joined the latter by announcing in late July that they were selling off two more ships.

One of the saddest sights a boater can see is the photograph of several handfals of

cruise ships sitting idle at anchor. It is reminiscent of the Mothball Fleet immediately after World War II. In 1960 my parents, drove from Los Angeles to San Diego while on vacation. I remember the entire coastline strung with warships. Miles and miles of destroyers, tenders, carriers, oilers, heavy and light cruisers and a plethora of submarines. It was really sad to see them rusting away.

Another sad sight is watching a YouTube video of a once beautiful cruise ship being beached at a Turkish ship breaking site. A recent picture of the 1991 *MS Monarch* is especially distressing, looking quite eloquent in her old age as she hits the shore before being turned into razor blades. Watching the death of any ship is heartrending.

Merchant Fleet


The CO₂ emissions from the merchant fleet have actually risen according to recent University College London studies. In 2012 the seagoing ships pumped approximately 962 million tons of carbon dioxide into the air, but by 2018 the gas amounted to 1,086 million tons. The goal of the International Council for Clean transportation is to significantly reduce carbon emissions by 2050.

Merchant ships carry 90% of all the world’s goods and are a primary contributor to pollution. 2019 and 2020 will be better years simply because of fewer ships sailing due to Corona virus.

American Triumph, a factory trawler, is in quarantine off the coast of Alaska with 85 of her crew of 111 sick with Covid 19. Health sources said they are keeping a very close eye on this situation especially because a sister ship, *American Dynasty*, had 86 of her crew ill with the virus. This data alone proffers rationale for cruise ships to cease sailing.

Piracy and other dangerous situations forced the owners of *MV Jaeger*, sailing in

the Middle East, to hire three security guards armed with extensive weapons. Much to the surprise of the ship’s crew, the security guards took over the ship and altered course. After three days of, I am sure, interesting conversations between owners and the guards, the guards surrendered. At first glance one wonders about the guards and their weapons and were they not vetted appropriately, however, the truth prevails. It seems that the owners had not paid a plethora of guards on previous voyages. This incident was a protest to ensure payment for work already completed. Ah, capitalism and greed is international.



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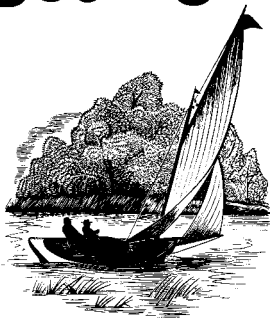


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NORUMBEGA CHAPTER ~WCHA

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Fall Newsletter

Steve Lapey, Editor

Fall is in the air, along with the Covid-19 that has stymied our canoeing activity for six months now, and perhaps it is time to start planning those winter projects that will at least let us think about fun times on the water in 2021. For this issue of the Norumbega Newsletter we are thankful to Bob Gorman, Max Mattoon, Eric Slosser and Mit Wanzer, Gary Amirault and Greg O'Brien for their contributions.

Tully Lake August 15 Photos by Greg O'Brien

On August 15 Norumbega's Tully Lake event became one more victim of the Corona virus. Only the brave O'Briens, Greg and Shelly, ventured out to Royalston for a day of paddling on Tully Lake, Long Pond and the East Branch of the Tully River. Greg reports that the weather was almost perfect, not too warm with scattered clouds, just right for canoeing.

Paddling up the river from the launch was the usual easy paddle, there is hardly any current here as the big flood control dam that creates Tully Lake restricts the flow at the lake's outlet. In the springtime when the rains combine with the snowmelt the dam is closed and the entire area can become flooded, the flood water is held until it is safe to release it slowly as it flows to the Millers River and on to the Connecticut River.

This entire flood control system was constructed after the tremendous damage caused to the cities along the lower Connecticut River following the hurricane of 1938. The dams were constructed by the Army Corps of Engineers and they continue to operate them.

Greg and Shelly chose the Old Town Trapper for this trip, its short length is an asset for going up the narrow, winding portion of the Tully River above Long Pond. After working their way through the weed filled delta at the mouth of the river they paddled up to the first beaver dam, then retreated back to the pond to relax and eat at the point near the pond's outlet.



It is always an adventure going through the maze of weeds trying to find the channel to the river. Here Shelly is pointing the way to open water.



Eventually the river opens up to a navigable stream.



Long Pond landing, a nice place to stop for a lunch break.



There is no shortage of great blue herons at Tully, they seem to be doing well.

Nashua River September 12 Photos by Gary Amirault and Paul Charos

Gary and Diane Amirault, Paul Charos and the O'Briens, Shelly and Greg, did the Nashua River trip on September 12, a perfect day for canoeing. Gary and Diane were in the oldest canoe on the Nashua, the circa 1907 Morris, Greg and Shelly brought a Morris too, theirs is a little newer. Paul came with a Northwoods inspired 14.5' canoe that was built at the 1999 WCHA Assembly.

Social distancing is easy when canoeing, everyone is more than six feet apart.



Shelly and Greg enjoying a day on the Nashua.



Wind was not a problem, the river was as smooth as glass.

Several shops in the Chapter have been busy during this pandemic and herewith are their reports:

Stevens Canoe Shop Photo by Steve Lapey

Here at the canoe shop we are in the middle of the restoration of a circa 1960 Northland Canoe, a fairly rare species around here. They were made in Canada for about 50 years until their factory burnt to the ground in 1995. This little 13 1/2-footer will be ready for paddling as soon as the ice goes out next spring.



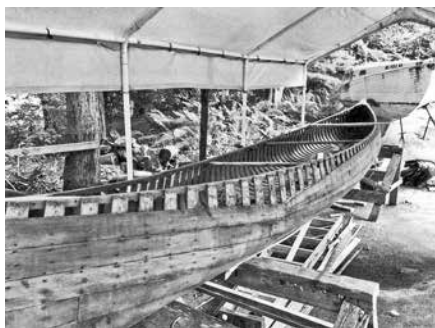
In fairly good shape for its age, this Northland will clean up nicely.

Bob Gorman's Old Town Project Photos by Bob Gorman

Bob Gorman and his son Ryan have undertaken a rather large restoration project here in Groveland. Ryan is a Maine Guide and, for his work, he decided that a 20' Old Town Guide canoe would be the perfect ves-

sel to transport his clients as they explore the woods and waters of Maine. These big Guide model canoes are made for this work.

Ryan located the canoe in Mapleton, Maine, in March where it had hung in a barn since 1985. The canoe was built between November 1968 and May 1969 and was sold to a Maine Guide /Game Warden and used for hunting and fishing on the Aroostook River.



Bob has set up shop in his yard for the two of them to do the necessary work, which has turned out to be a little more than first planned on. They knew that it needed inwale ends and stem tips in addition to the usual rib or two, some planking and new canvas. As the project got started it became apparent that both inwales would need replacement.



Time to go looking for a 20'+ length of ash or Sitka spruce! The wood was purchased at Highland Hardwoods in Brentwood, New Hampshire, and the two decided to use ash for the inwales and mahogany for the outwales and the decks. Due to Covid the project has progressed slower than planned but Bob and Ryan plan on getting as much done as they can before moving the canoe into storage for the winter.



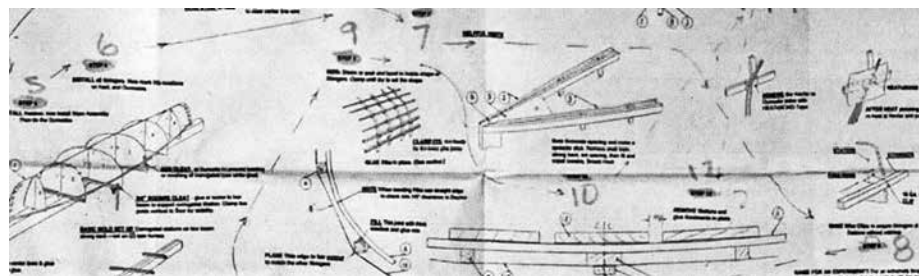
Building the Arrow 14 A Geodesic Design from GABoats Text and Photos by Eric Slosser

This spring I built a skin-on-frame canoe, a design called "Arrow 14" by Platt Monfort, sold by Geodesic Airolite Boats (GABoats). You can find the plans at <http://bit.ly/arrow14>. The "Arrow 14" is 14' long with a 28" beam and 300lb carrying capacity.

GABoats has other 14' designs with wider beams (32" and 36") and higher capacity (400lbs and 450lbs). I chose this one because I figured most of my trips wouldn't need carrying capacity and I would appreciate the ease of propelling a narrower hull.

The Plans

The plans came as two sheets, most everything on the first and some full size patterns on the second. The canoe could be built just from the details on the two sheets but there's also a sheath of 8 1/2"x11" papers with many more details. The sheath isn't specific to the Arrow 14 and covers some topics that don't apply to it, like how to do a transom or seats. Despite all this information I still managed to find reasons to email questions to GABoats and the owner, Larry LaLonde, responded very quickly both times. He also maintains a YouTube channel with several how to videos, taking one through most stages.



The Kit

I also bought a kit consisting of the fabric, roving, pre thickened epoxy and adhesive tape.

The fabric is Dacron. GABoats offers two options, 3.7oz or 9oz. I chose the heavier one for extra strength and durability. The fabric shrinks when heated. The roving is Kevlar Aramid, the two strand variety. There is another kind out there with five strands. It's mentioned in the papers so apparently it's used for some of the other designs.

The epoxy was a brand I didn't recognize, Superbond two part structural epoxy. I have used West System goo exclusively for the last 30 years. Was I an epoxy snob or just afraid of change? I'm happy to say this other brand worked fine and I was not struck (stricken?) dead by a bolt from heaven.

The adhesive tape is Heat-N-Bond heavy duty. It's a glue stick in tape format.

I'm glad I bought the kit. The epoxy and tape are easy to find but the specific Dacron and Kevlar roving are much harder. Larry told me it took him a year to find a source for the Dacron and only by buying 2,500 yards was he able to get a decent price.

Stringers

I bought a 2"x10" plank from the local lumber store. All this lumber is labeled SPF meaning spruce, pine or fir. I picked through the pile for the clearest, tightest grained, closest to quarter sawn board and picked one that I hoped was spruce and brought it home.

I got one that was 16' long thinking that I would be able to rip all the longitudinals from it and avoid having to scarf them out of shorter pieces. In addition to the difficulties of handling a long and heavy board, I found any knot or imperfection would interrupt the entire cross section of the 1/2"x1/2" stringer and it would break. Even a small twitch in the grain would make the stringer kink and head off in a different direction. The solution is to

cut the kink out and scarf the two sides back together. So I ended up scarfing after all, one to three times per stick. I should have started with a shorter board.

Ribs

I built a steambox from foil faced rigid insulation. The bottom edge is taped with foil tape (the HVAC duct stuff) to keep condensate from dripping out.



My first attempt was not glorious. I was snapping about three out of four ribs. I was using old kiln dried wood and steaming it about 10-12 minutes. I called a friend who suggested using fresh cut oak and told me that 20-30 minutes was a more reasonable amount of time in the steambox, after pre soaking the sticks.

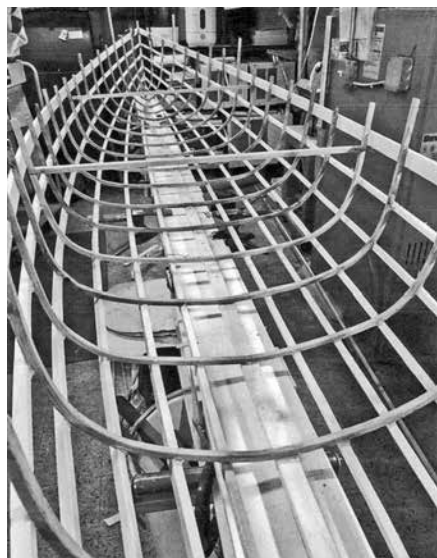
When soaking the wood overnight in a homebuilt water trough (leaf bag set on frame of scrap wood) didn't improve the ratio of snapped to attempted I resolved to find fresher wood. My calls to various lumberyards didn't result in my hearing, "yes, we have that, come on down," just variations of unanswered messages, "no" and "maybe." This was March 2020 and everyone was hunkered down.

I even called a couple of the tree removal companies I'd used in the past but they never even bothered calling back. I can imagine that my request must have sounded pretty crazy to them. I was some crazy guy on the message asking for a thick, plank like chunk of white oak about 4' long.

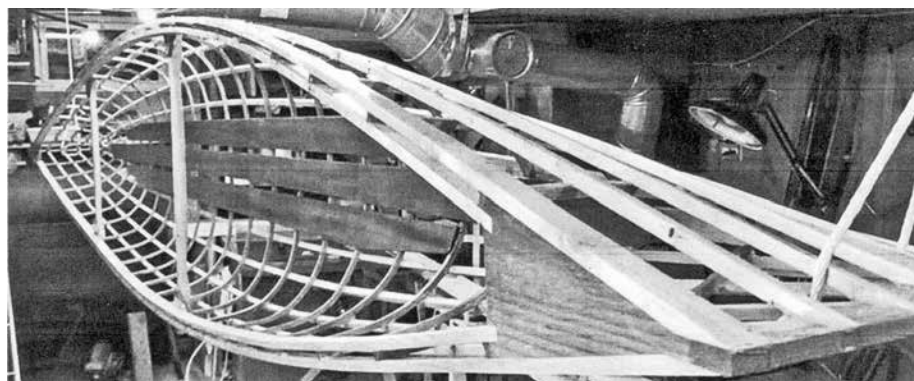
I started looking around town for a freshly fallen tree. I learned the fun fact, from the town forest manager, that it's legal to take any wood that falls on public ground. A few walks through the town forest turned up some prospects. But I didn't have to resort to that because I found a massive section, 50" long, 2.5' diameter, in the brush pile at the town dump. Using a chainsaw with a 16" blade and a great deal of caution because it was not a good time to go to the emergency room, I freed up a misshapen plank like chunk of it.

This was the deepest point of crazy in the project. It gets saner from here on. If it hadn't been the first few weeks of the pandemic shutdown it would have been easy to trot to the lumberyard and buy a younger bit of oak or poplar. If the last few paragraphs make you think, "it's too hard to build a boat," please know that it's not. You don't

have to scrounge around in the village dump or use a chainsaw or do crazy amateur wood harvesting. Unless you want to, of course. Then you should go right ahead, it's fun. With fresh wood and plenty of time in the steambox, I got the 22 ribs bent into place.



Some years back a woodworking member of my church downsized from a house to a retirement community and three of us bought his stock of furniture grade lumber and divvied it up. I turned one of the mahogany boards into floorboards. The plans give an option of gluing the floorboards to the ribs OR creating a rack that'll lift out of the boat for cleaning. I was leaning to "easier to clean" but Larry gave me good advice again, gluing them in adds to the stiffness of the hull and this boat isn't hard to clean. So I glued and am glad I did.

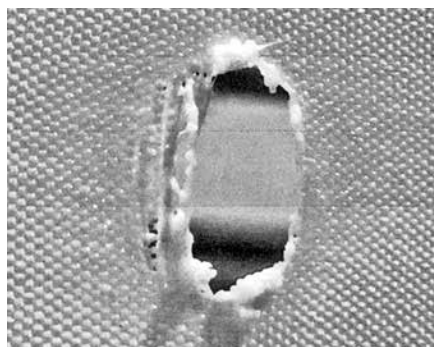


Scraping, Sanding and Painting

I cleaned up the epoxy glue blobs with a heat gun and scraper, then sanded and painted with clear high gloss urethane. I'll leave the details to your imagination, saying only 15 long sticks, 22 ribs = 330 intersections. I hung the boat from the ceiling so I could spin it to have the brush above whatever surface was being painted. Painting against gravity is no fun.

Skinning

The Dacron fabric is similar in weight and feel to cotton duck, or heavy work pants material. It differs in that it shrinks a little when heated. There are plenty of websites that describe the process so I'll be brief, tack the tape to the gunwale, drape the fabric over the hull, press the fabric into the glue with a hot iron, heat shrink the fabric to get the wrinkles out. The instruction manual said I could use a heat gun but that extra caution would be needed to avoid overheating and melting a hole in the fabric. It was right.



I put on about six coats of urethane, the first two sealed the cloth and made it waterproof, the remaining coats were to fill the weave. The manual recommended a foam brush but I got better results when I switched to bristle.

Final Touches

After the skin was on and painted, all that remained was to build, paint and install the gunwales, cutwaters and keel.

Other Thoughts

Early on in the project, I made a conscious decision to keep track of neither time nor money. I also set no timeline or schedule. The building wasn't something to be "gotten through" in order to get to the next thing, it was the thing itself. Even while snapping rib after rib I was still messing about in boats so I didn't need to rush through as if it were a distraction. But I can tell by looking at the time-stamps on my photos that it was four months from start to "first splash."



(For more information on this project contact Eric Slosser in Needham at eric@slosser.net, for additional information on other GABoats designs go right to the source, Larry LaLonde at admin@gaboats.com)

Deep into Old Wooden Canoes!

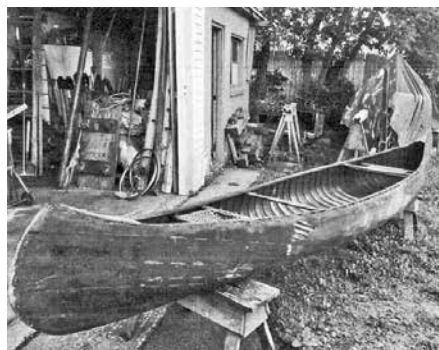
From out in Pittsfield, Massachusetts, new member Max Mattoon sends photos and info on the canoes that he is working on, a complete shop full of beautiful and rare specimens.

First up is a very early Morris, an Indian Model or a Model "B." Unfortunately the serial number tag is missing. This Morris has a full length rabbet in the inwale for the rib ends rather than the individual pockets that we see in most Morris canoes. The canoe is solid but needs a fair amount of work to bring it back.



This is the Morris as it arrived, a better than average Morris, the only thing that jumps out in the picture are the oversized outwales that are an obvious addition by a previous owner.

Here the rabbet for the rib ends is visible along the sheer line now that the canvas has been removed along with the outwales.





Number two in Max's collection is a really rare canoe, a sponsoned Whistle Wing made by the St Lawrence Boat Works in Ogdensburg, New York, somewhere around the turn of the 20th century.

Someone spent a lot of time and effort over the years keeping this canoe afloat, now it is in Max's shop where it will be repaired correctly.



The sponsons were done in an interesting manner, much deeper than most. When they came off it showed clearly how the builders did the installation.



This has to be the most creative repair we have ever seen! For some reason a previous owner decided the correct way to reinforce some broken ribs and cracked planking would be to nail pieces of sheet metal to the ribs on both sides at the turn of the bilge after nailing in a number of sisters in the spaces between the originals. All of this "repair work" is going to have to be removed in the restoration.



Max has removed the sheet metal on both sides and the repair work is visible along both sides. In addition to the sheet metal covering there has been a sister rib installed in between each of the original ribs, you can see the bent over nails holding the additions in place. The canoe was recanvassed after the rib repairs were completed.

As if he didn't have enough on his plate Max has another two canoes in the queue for restoration, these are going to be easy after the Whistle Wing.



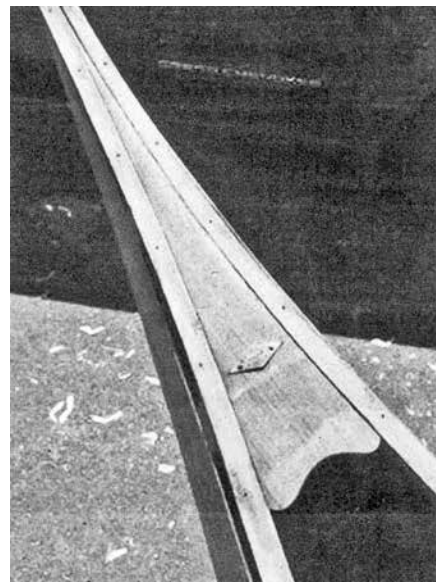
A very early E.M. White, an 18 1/2' Guide model that has been in one Maine family since new, it needs new canvas and a lot of wood work but at least there are no sheet metal repairs to deal with!



Rounding out the fleet is a Robertson in very good condition that will need just a little work to get back to "like new" condition. This Robertson, according to Max, is very tender and the most likely to capsizes of any canoe he has paddled!

Teamed Up to Tackle a Brodbeck! Photos by Mit Wanzer

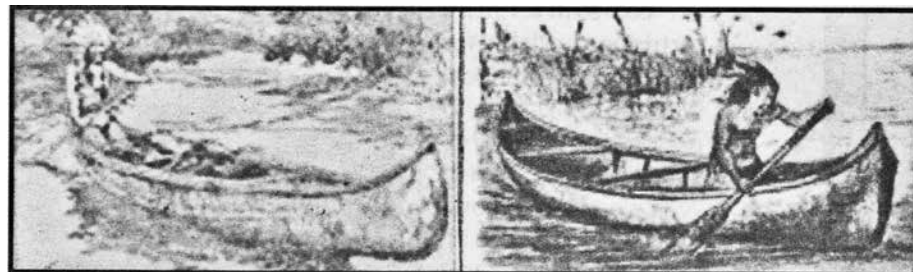
Mit Wanzer and his daughter Sophie are from Acton, Massachusetts, and they have signed on with the Norumbega Chapter. We would like to take this time to welcome them aboard. They bring with them a very early Brodbeck canoe and a more modern Chestnut Bob's Special.



This is an early example of Brodbeck's work, it is a closed gunwale canoe with a different deck tag than the other Brodbecks that we have seen.



The Bob's is in usable condition and is in regular service, the Brodbeck on the other hand is in need of some serious love and attention.





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Recently Mit and Sophie brought the Brodbeck to John Fitzgerald's shop in Concord to have five new ribs installed over a weekend. Here we see John, complete with his Covid mask, getting a new rib ready for steaming.



First on the agenda was the removal of a few of the ribs utilizing an angle grinder to first take off the clinched end of each tack before pulling it. This system results in a lot less damage to the planking.

The new ribs were milled from John's stash of white cedar, they were ripped to size, planed, tapered and the edges were rounded over before going into the steam box for 20 minutes or so. Softened by the steam the cedar bent easily over the hull. After cooling off the newly bent ribs were clamped in place and tacked to the ribs.



Back home in Acton Sophie discovered a small crack in one inwale so she and her dad improvised a routing jig to cut a mortise in the area of the crack into which will be glued a hardwood spline. This inwale will be as strong or stronger than it was when Fred Brodbeck installed it! It will take a while but we can expect to see this Brodbeck on the water for a future Norumbega event.



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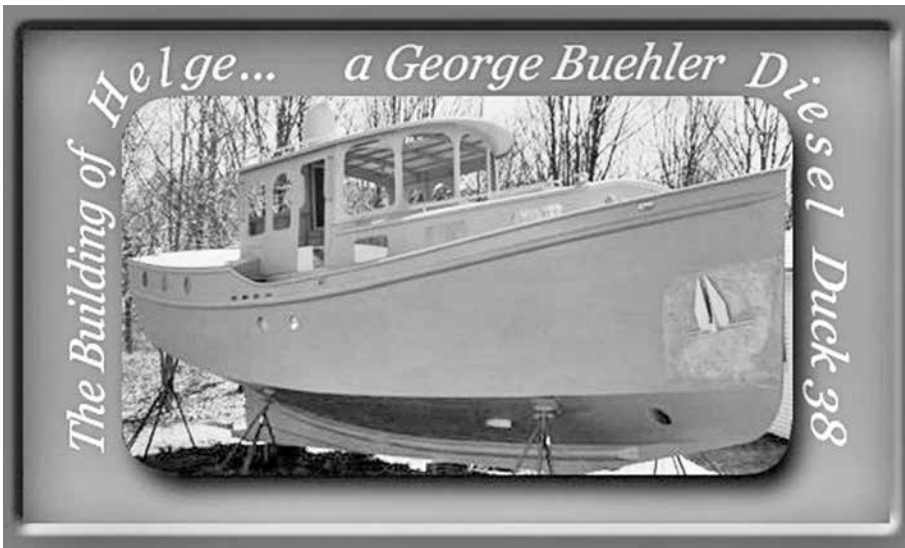
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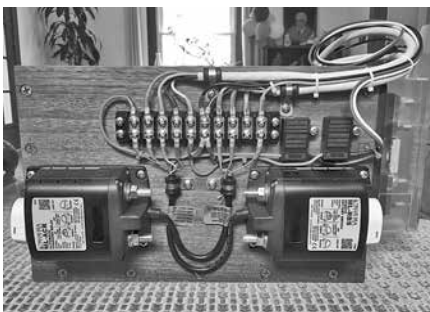
The Building of *Helge* A George Buehler Diesel Duck Part 15

Wendell Gallagher is building a Buehler Diesel Duck 38. He had the steel hull built at a yard and trucked to his home and is doing the rest himself.

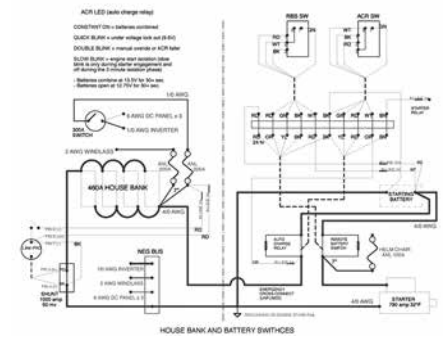


The John Deere's Battery Box

Helge's battery box holds the RBS (Remote Battery Switch), the ACR (Auto Charge Relay) and the helm chair fuse. Both relays have manual override for emergency cross connect and manual off for servicing the electrical system.



4/0 AWG emergency cross connect between the engine and house batteries.



The Fuel System

Helge has two main fuel tanks of 300 gallons each. Both are integrally welded to the hull. Unfortunately they are positioned too far aft. (George updated his plans after we began construction.) To offset the anticipated bow drop as fuel is burned, we installed two forward ballast tanks between Stations 6 and 9. Together they hold 115 gallons of fuel (roughly 800lbs or 360kg). This extra forward weight can be pumped aft to raise the bow as needed. A welcome side benefit to this is having additional fuel at our disposal.

The system is plumbed with USCG type AI-15 hose and ABA heavy duty claps. The clamp bends are unperforated and their edges are rolled to prevent hose damage.

Fuel transfer is managed by three Groco CP-20 centrifugal pumps and a remote Vetus ball valve. Because centrifugal pumps allow fuel flow in either direction (when off) they simplified our plumbing by avoiding the need of parallel runs and check valves. The remote Vetus allows ballast transfer without entering the engine room.

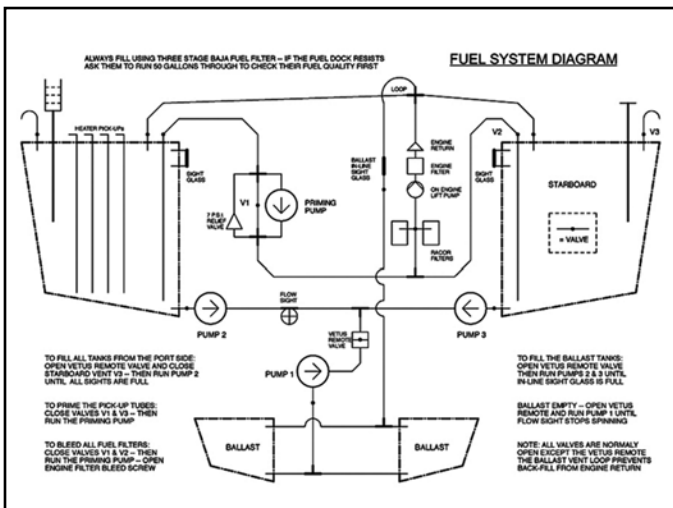
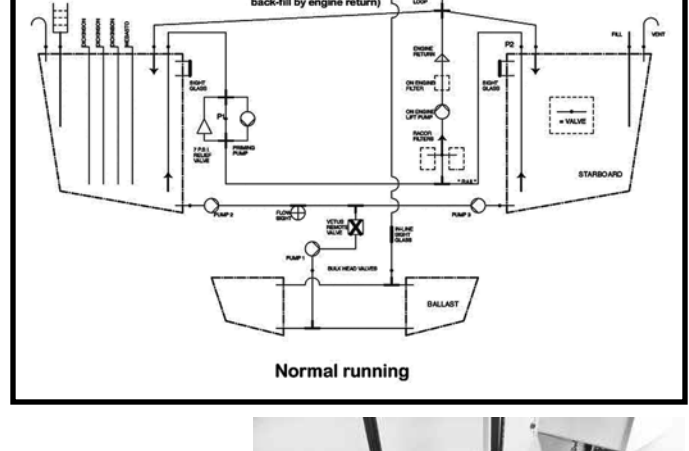
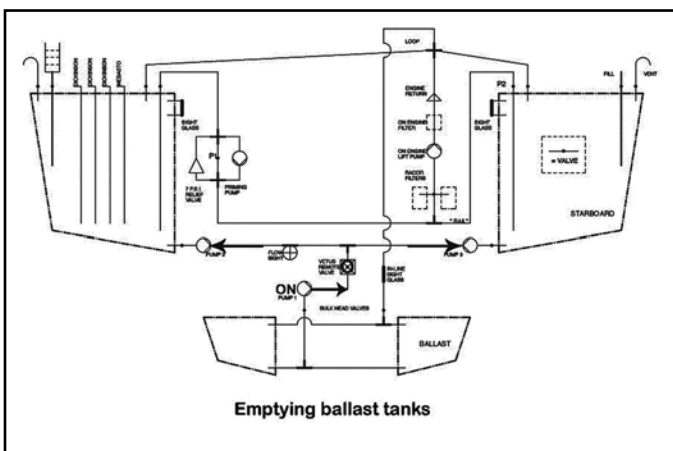
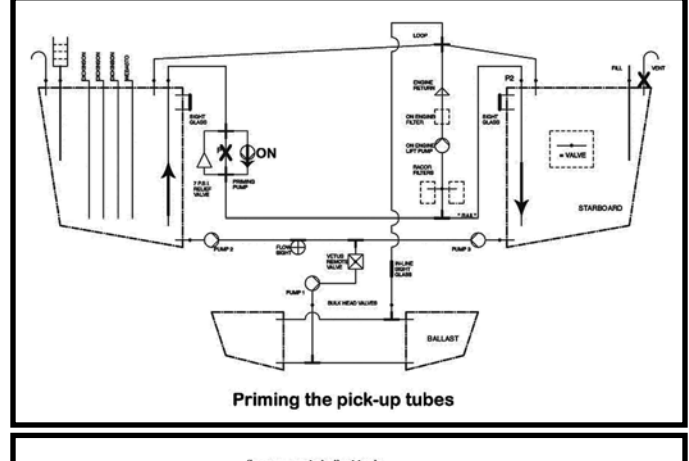
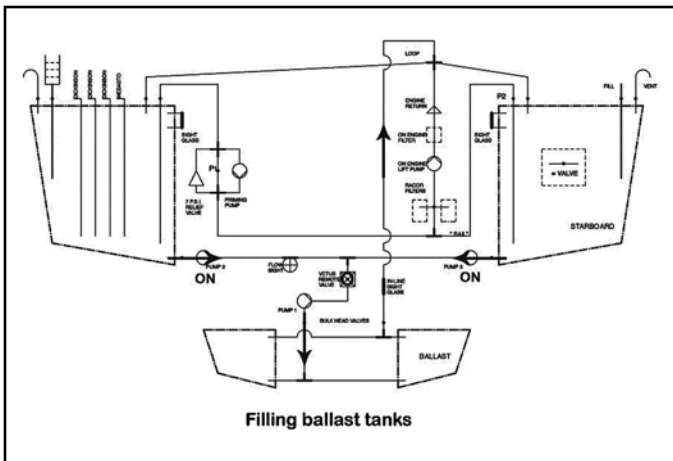
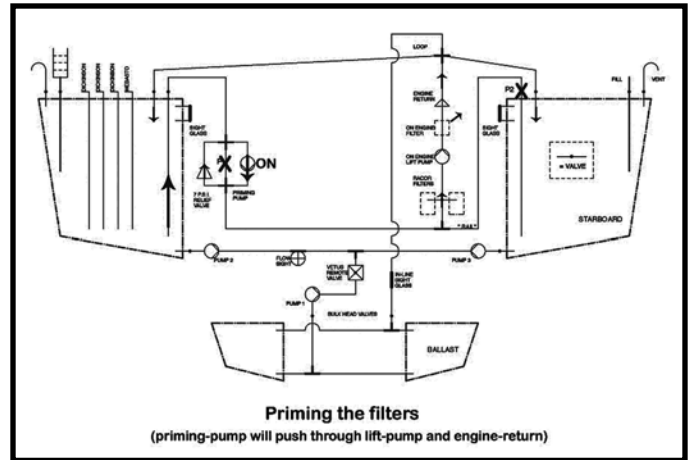
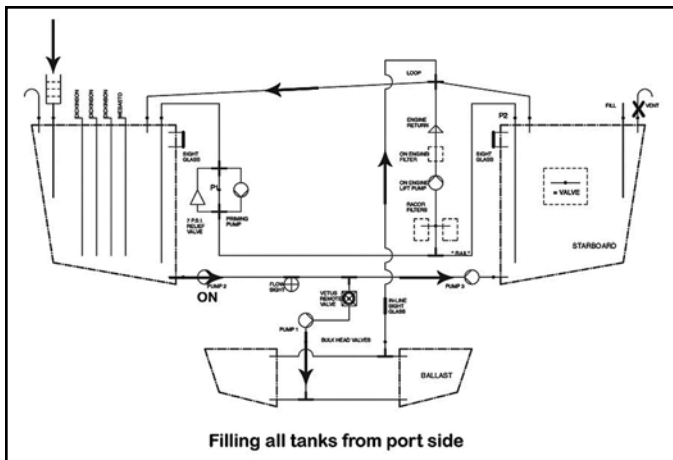
A Groco GPB-1 self-priming gear pump is used to prime the pickup tubes and bleed the filters. A normally open bypass valve allows natural siphoning around the pump when it is off. A 7psi relief valve protects the Racor filter assembly when bleeding.

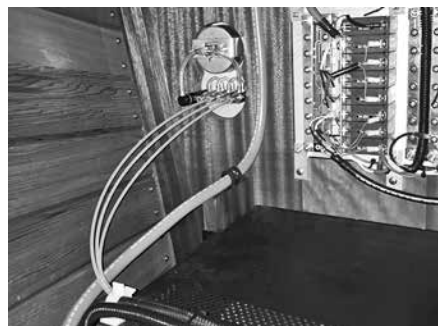
Fuel levels are monitored by a Tank-Tender and various sight and flow gauges. The ballast tanks use a vent sight to indicate when they are full and a flow sight to indicate when they are empty.

Fuel is cleaned through a pair of Racor filters. The Racor filters are finer than the John Deere's on engine filter. The thought process behind this tactic is to prevent the engine filter from clogging before the Racors do. The Racors can be individually isolated and replaced without shutting down the engine.

The exposed fuel system components are laid out in such a fashion that a person unfamiliar with the setup could easily understand how things are connected and why.

Editor's Note: The following diagrams of the fuel distribution system are in larger format to better show how it all goes together. Unlike the electrical diagrams, the fuel system's more mechanical layout lends itself to better understanding upon close examination. I found a magnifying glass made most of the type readable for those really into understanding what is going on here. Yes, it would be even easier if the images were larger but space does not permit such luxury. This whole project is so overwhelming in detail that all we can do is bring you what amounts to a "big picture" of it.





The future beckons...



A Marvelous Mystery

In Pursuit of a Catboat Legend

By John Conway

Part 4: Of Builders, Ribs, Motors, and Spars

“OMG! You may not have a Herbert F. Crosby boat after all. You may have a Daniel and Charles H. Crosby built boat. Call me.”

Those following this tale will recall that Part 3 ended with a finding by naval historian Joe Chetwynd that potentially threw the history of this boat on its ear. The registration records show that *Marvel* was designed and built by Herbert F. Crosby. So how could the record in *Marvel's* Quincy Yacht Club yearbook claim something else? Repeated attempts to contact officers at the QYC to explore their records have gone unanswered. However, guidance from Carol Crosby, a great, great Crosby niece and a living expert on her clan, may have confirmed this yearbook entry as a mistake.

“There’s just no way that Daniel Crosby and Charles Crosby collaborated on a single boat,” Carol has advised. “They each had their own boat sheds and each built boats somewhat in competition with one another.” Carol continued, “My guess is that the Secretary at the QYC knew *Marvel* was a Crosby boat and just jotted in a few Crosby names that came to mind to meet a yearbook deadline.”

The answer may lie in the records of the QYC and with those held by Osterville Historical Society on Cape Cod, home to most of the Herbert Crosby records. Stay tuned for updates on this ever deepening mystery as the research expands.

The Case of the Missing Rib Pieces

Meanwhile, the Track 3 restoration process continues to move ahead at full speed, not without some curious findings, however. An examination of the port side of the boat revealed a masterful replacement or sistering of virtually all of the boat’s ribs. Her starboard side, however, presented a different story. Many of the starboard side’s ribs had also been sistered, but with partial rib pieces! Figure 1 illustrates the situation.



Figure 1: For some reason previous restorers left gaps in new sistered ribs.



As shown, the sister rib is solid from amidships to the keel and solid from just above midships to the deck but it has a plank wide gap right in the middle. Does any reader have any idea why a boat builder/restorer would do this? At first we thought this might have had something to do with the removal and replacement of a single plank but the gaps are not uniform from rib to rib. Some are amidships, some are higher, some lower.

Amongst the boatyard experts consulted a debate raged as on how to resolve the problem. Some said, “Replace the whole damn sister rib.” Others suggested that we “just fill the gap with a new piece.” Yet others said, “Leave well enough alone. The boat obviously sailed for some amount of time with these gaps. It must be OK.” After several beers passed around to the consultants, coupled with a few coin tosses, we decided to “plug the gaps” by grafting in an appropriate piece of rib stock. Figure 2 shows how we accomplished this.



Figure 2: The gaps in the ribs were filled by grafting in a rib stock plug made from a template.

Step 1: Make a cardboard template of the gap (A).

Step 2: Trace the template onto a properly dimensioned piece of rib stock.

Step 3: Bandsaw out the gap filling plug (B).

Step 4: Carefully epoxy the plug into place and secure with screws on the inside (wax paper placed beneath the graft would prevent epoxy bonding to the plank).

Step 5: Drill and countersink screw holes from the outside and secure the plank to the graft.

Voila! A full rib is born with its accompanying plank secured.

The boat’s starboard side required us to repeat this process for a dozen ribs. Again,

we would love to know why these gaps were there in the first place. Yet another mystery.

(Please send comments directly to jeconway3@gmail.com)

Motivating the Motor

From the records provided by Kathryn Green, daughter of former owner Walter Krasniewicz, we learned that the boat’s 1950s vintage Universal gasoline engine was replaced with *Marvel's* current Volvo-Penta MD7A, twin cylinder marine Diesel. This was done during the boat’s second restoration in the ‘80s.

“The Diesel was still running ten years ago,” claimed Paul Cook, one of the most recent owners, when we took delivery of the boat this past summer. “But there are no guarantees, of course. We had a kid knowledgeable about marine engines pull the thing and restore it a bit. Then he put it back into the boat. Good luck.”

Paul got one part right, the engine was back in the boat. However, it had only been partially reassembled. Within *Marvel's* cabin we found several boxes with an assortment of hoses, belts, pumps, clamps, a SenDur heat exchanger, an air intake muffler several electrical wiring harnesses, gauges (fuel, water temperature, engine hours, tachometer) a number of control cables and hundreds of nuts and bolts (Figure 3).



Figure 3: Boxes of motor parts were found in *Marvel's* cabin.

Thanks to the internet I was able to download both the Owner’s and Workshop Manuals, the former detailing how to operate and maintain the engine, the latter explaining how to disassemble and reassemble it. An examination of both quickly revealed an anomaly. The manuals depicted the MD7A as a saltwater cooled machine. Yet the presence of the SenDur heat exchanger in the parts boxes suggested she was a freshwater cooled beast. Hmmm.

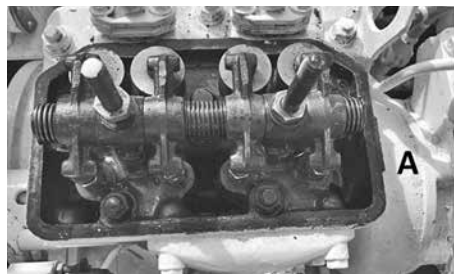
I once again turned to the internet for an answer. After a considerable search I discovered a YouTube video wherein an MD7A

aficionado demonstrates the operation of his freshwater cooled version. You can check it out at: <https://www.youtube.com/watch?v=RzNanzptu7A&t=234s>.

Armed with this, I began to reassemble the little “two banger.”

From experience (hard learned experience) with old marine Diesels, I learned that it's wise to run a test on the engine's valves before cranking the thing over. After sitting unused for a number of years the valves are often stuck in place either through rust or by just being gummed up with sludge. A cranked piston hitting a stuck valve can lead to a bent valve, or worse, a shattered piston or bent connecting or push rod. Fortunately the test and, if needed, the cure is mindlessly simple.

As shown in Figure 4, the process begins by unfastening and lifting off the engine's valve cover. This reveals the rocker arms (Figure 4A). Removal of the rocker arms exposes the valve stems.



When the engine was reinstalled in the boat, whoever plumbed it plumbed it as a saltwater cooled machine. I was amazed to see that the engine was designed to pump sea water directly through the reverse gear transmission as its first stop! Pumping saltwater through the reverse gear seemed insane to me, but that is how the engine was originally designed.

Fortunately the YouTube video provided the information needed to secure the heat exchanger in the appropriate place along with its accompanying saltwater feed pump. I found the little Jabsco based pump in the box along with the other parts but missing its impeller and cover plate. In yet another box I found an impeller still in its packaging along with the cover plate. Unfortunately the new impeller turned out to be the wrong size. After several internet searches the correct impeller was identified and secured. Screws to fasten the cover plate and a gasket to seal



Figure 4: A simple procedure tests to see if an old engine's valves are stuck.

All one then needs do is gently tap the top of the valve stems with a soft blow hammer (Figure 4B). If the valve is stuck the hammer blow will hit the stem with a dull thud. If the valve is free it will sing out with a satisfying “boink.” To unstuck a stuck valve (assuming it is not already bent) just spray WD-40 on the exposed stem and gently tap it. Repeat until the valve frees up. Once all the valves have been successfully tested, replace the rocker arm assembly and valve cover. You have just saved beacoup bucks and possible saved the engine from self destruction. (I know because, as the saying goes, “I’ve seen the movie.”)

First Things First

Rightfully or wrongfully, after running the valve tests I decided to begin the assembly process by reinstalling the freshwater cooling components. The first task was to determine how cooling water flowed through the engine so that I could properly install and plumb the heat exchanger. The flow diagram shown in the manuals (Figure 5) illustrated saltwater cooling.

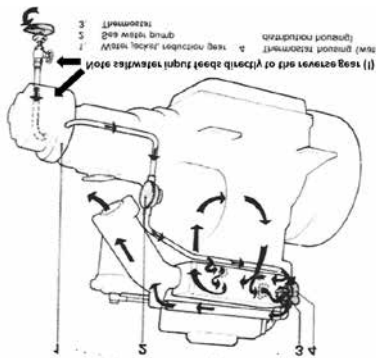


Figure 5: All of the engine's manuals said it was a saltwater cooled machine. It was not.

the plate were another matter, however. A hunt at the local hardware store resolved the screw problem. And, in a fit of brilliance, I decided to fabricate a new gasket from some elk skin leather that I had from previous gasket making projects (Figure 6).



restore the seawater pump with style.

Pump rebuilt, heat exchanger installed and lots of rubber hose connected, the MD7A was (hopefully) upgraded to freshwater cooling magnificence.

To test the setup and with help from my three year old grandson Luke (Figure 7), I filled the engine with fresh water and antifreeze and ran the saltwater intake into a bucket of fresh water.



three year old grandson, we ran the cooling water test.

I was especially anxious to see if the

seawater pump would draw water from the bucket, circulate it through the heat exchanger and then eject it into the exhaust cooling line. To do so I connected a battery and a starter switch to the starter motor, crossed my fingers and turned the key.

NOTHING HAPPENED! Long story short, the starter motor was stone dead!

I kicked myself for working on the cooling system before determining if the starter motor was among the living. Resolution of this problem would entail removing the starter with a follow on trip to a repair facility.

I was most familiar with this process as I had the starter on my previous boat's Westerbeke engine rebuilt about every two years. I could drop the Westerbeke's starter in *Buckrammer* in about two minutes. Three easily accessible bolts, once unscrewed, would release the thing. Cake!

So naturally I assumed the starter on the MD7A would follow suit. NOPE!

Turns out that the starter on an MD7A is a bugger to remove. Only two nuts and bolts secure the thing but they are almost impossible to access with a wrench. Worse, removal of one of the bolts seemed to require removal of the engine's flywheel as the head of the bolt just hit the gear teeth on the wheel. ARRGGGHHH (Figure 8).



Figure 8: Release of one of the starter motor's mounting bolts required flywheel removal.

Worse, access to the second bolt would require removal of the recently installed heat exchanger, the seawater pump and associated plumbing. Following that, extraction of the starter would require dropping the engine's oil filter and air intake muffler. Great engineering!

A close quarter hacksaw made slow but effective work on removing the bolt blocked by the flywheel. (I was determined NOT to remove the flywheel). Disassembly of the cooling system requiring way too many quarter wrench turns at a time released the second nut and bolt. With that I was finally able to dismount the offending starter.

In the 23 odd years I owned *Buckrammer*, Brian and Lou Farkas at Hub Starters were my “go to guys” for starter motor and alternator repair (www.hubstarter.com). “Go to,” that is, when I lived about five miles away from their shop. With *Marvel* based in Westport, this would entail a 90 minute drive from the Massachusetts South Coast, through Boston to Malden, Massachusetts.

There had to be a closer solution. “There sure is a closer shop, JC.” Once again my catboat “go to guy,” Bob Luckraft, had sage advice. “Check out Leo Boulanger

& Son in New Bedford. Everyone says they are the best" (www.lhboulangerandson.com).

Glowing reviews on Google seemed to confirm Luckraft's advice. Better still, their shop was located about ten miles from Westport. Sad as I was to abandon the Farkas boys, convenience won out over loyalty.

The Boulanger facility, located on the northern fringe of downtown New Bedford, is a sight to behold (Figure 9).



Figure 9: In a shop not much bigger than a two car garage, Boulanger & Son work their magic.

Now owned and operated by the father and son team of Dennis and Jarrod Freitas (Figure 10), the shop has been in continuous operation for 60 years. Crammed with every starter motor, alternator or generator known to man, the place and its remarkable father and son team are legends in the New Bedford community.



Figure 10: Son Jarrod and his dad Dennis restore all makes of starters and alternators.

On a whim, I decided to bring the engine's alternator along with the starter motor. Might as well get both checked out together.

Dennis examined the machines and pronounced them "fixable." "Give us two weeks," he advised.

True to his word, a fortnight later Dennis handed me both the rebuilt starter and alternator. "Looks like these had gone underwater," he explained. "They were rusted solid and required some machining as well as rewinding, but we've brought 'em back to life."

Hmmmm, I thought. Underwater! (I later found out that the engine had indeed sat uncovered for about three years in the storage yard next to *Marvel*.)

Dennis was also kind enough to tag all of the alternator connections (Figure 11) and explained in detail how to rewire the thing as it required an "electrical field kick start" when cranking the engine to operate correctly.



Figure 11: The good folks at Boulangers were kind enough to label all the connections.

To reinstall the starter, I modified the troubling bolt blocked by the flywheel. A few passes on a grinder shaved off one side so that it would slide past the flywheel's teeth (Figure 12). I am happy to report it worked like a charm.



Figure 12: By grinding off a bit of its mounting bolt, the starter reinstall went smoothly.

Starter motor (and alternator) and cooling system reinstalled, I was finally back to the test of my plumbing handiwork. I hit the ignition switch, the engine cranked over beautifully (thank you, Freitas), the saltwater pump turned and, it did not draw water from the bucket. Something was clearly wrong. Thoughts on the cause included a broken shaft on the Jabsco pump, the wrong impeller or my plumbing fix installed incorrectly. I discombobulated the rig and brought the pump back to my workshop to

run some bench tests. The impeller seemed OK. The shaft was not broken. What could it be (Figure 13)?

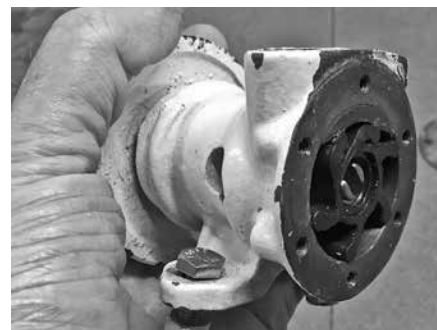


Figure 13: The saltwater pump was mysteriously unable to draw and pump cooling water.

I ran some kitchen sink tests. Water run into the pump's intake side immediately ran out of the output side without engaging the impeller. As the saying goes, light dawned on Marblehead when I realized that my fancy schmancy leather gasket was too thick. As a result it did not allow the cover plate to mate with the side of the impeller. So water just flowed around the impeller blades. Son of a gun.

I removed the gasket, fabricated a new one from wax paper and shazam! We had a functional saltwater pump. Reinstalled on the engine, the thing drew water from the bucket, through the heat exchanger and out to the exhaust. The MD7A's cooling system was back in business. All that remained now was to prime and bleed the engine's fuel system and crank her up. What could possibly go wrong? (More on this next time.)

Sparring Partners

Despite all this engine fussing, we had not forgotten that *Marvel* is, after all, a sailboat. So in parallel to the work on the "cast iron breeze" we simultaneously directed our attention to her sail, rigging mast and spars.

The boat's mast, main boom and gaff boom had been stored both outside and inside over the past ten years, but all appeared to be in reasonable shape.

Her sail and rigging, however, had been stored in large plastic tubs or sail bags during this time that had not been open or inspected for a decade. We had no idea what to expect but assumed the worst. A new sail, if needed, would be prohibitively expensive as would new rigging. So it would be an understatement to say that we held our breath as these items were unpacked.

We decided to set up the rigging on the boat's spars laid out "on the hard" horizontally. To do this we had *Marvel*'s mast and spars delivered to a convenient, grass covered field in Westport (Figure 14). These were then assembled on sawhorses in the same configuration as if they were aboard the *Marvel*.



Figure 14: *Marvel*'s mast and spars were delivered by boat trailer to the testing field.

This allowed us to lay out, inspect and connect her rigging and sail well in advance of her launch next year. We certainly did not want any last minute surprises (Figure 15).

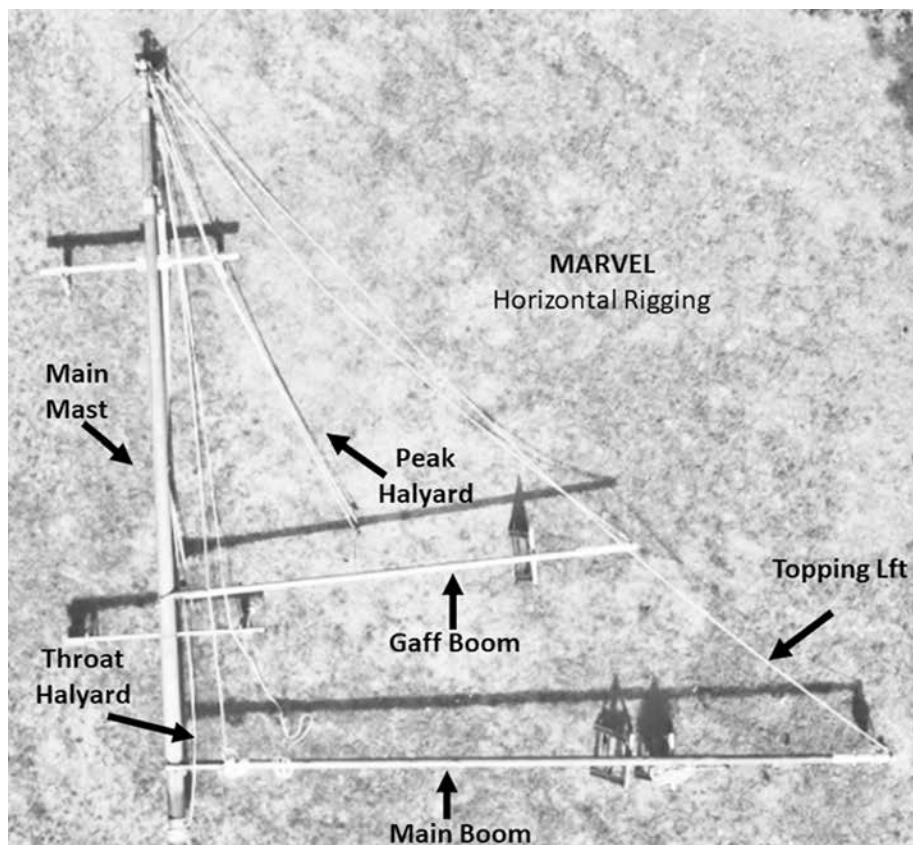


Figure 15: The mast, spars and rigging were set up, examined and tested horizontally (aerial drone photo by Tim Lund, President of The Catboat Association).

Our expectations were pleasantly exceeded by what we found. Her sail had been flaked and bagged in a very professional manner and was in excellent shape. With a bit of cleaning and a stitch or two here and there it would be ready to fly.

The same was mostly true of her rigging. The boat's throat and peak halyards, topping lift, and mainsheet, all $\frac{5}{8}$ " triple-strand Dacron were in very good condition with only minor wear in a few, anticipated areas. Her $\frac{1}{4}$ " nylon lazy jacks had been neatly coiled and stored and were ready for service.



Figure 16: Virtually all of *Marvel*'s rigging runs through restored Merriman Brothers blocks.

The rigging blocks were another matter, however. On the good news side, all but one were Merriman Brothers blocks, clearly identified by their trademarked Trident brand (Figure 16).



Figure 17: The ingenious design of Merriman blocks allows them to be readily restored.

After carefully stripping off the failed varnish, a good, long soak in a bucket of boat soup (a concoction of pine tar, boiled linseed oil, turpentine and other ingredients) restored the beautiful hardwood shells. A thorough cleaning of the sheaves and pins followed with a spray of SailKote dry lube had the hardware spinning like new. Finally, a strong wire brushing of the metal parts followed with a coat of cold galvanizing revealed the solid nature of the wrought steel stroops.

This well deserved effort brought all the rig's blocks back to virtually good as new condition. Not bad for hardware that could well be over 116 years old.

The unpacked rigging and restored blocks were connected to the mast and spars and then tested on "the flat." Once we were satisfied that all was in order, the rig was carefully removed, coiled and stored, ready for reinstallation come the summer of 2021.

Marvel's spars received similar legacy treatment. Prior to storing the mast and spars for the winter, each was inspected for defects, repaired if necessary, then refinished with six coats of high quality varnish.

The Restoration (Hopefully) Continues

The excellent, dry summer weather had lulled us into thinking that restoration work could continue outside indefinitely. Then, as if a switch had been thrown, fall hit with a bang bringing gale force winds and near freezing temperatures. Hull work below the waterline, deck and cabin roof work, interior cabin work, new wiring and, of course, engine restoration all remains on the October punch list. Fingers were crossed that the weather would cooperate.

(To be Continued)

The author would greatly appreciate donations as small as \$1.00 to support the grassroots project restoring this historic catboat. These can be directly made to: <https://gogetfunding.com/marvel-an-historic-boat-restoration-project/>.



On the bad news side, at some point the rig's six Merriman halyard blocks, two topping lift blocks and the three main sheet blocks, all beautiful works of art, had been varnished and then left to weather. As a result, the blocks sheaves and pins were frozen, the wooden shells were in serious need of refinishing (NOT with varnish) and the metal work cleaned and polished. Given their history, these amazing artifacts of a bygone time begged to be properly restored.

Fortunately, none were beyond restoration. In fact, Merriman blocks were renowned for their ingenious design. As a result, they can be easily disassembled and, with a lot of TLC, cleaned up and reassembled (Figure 17).

Visiting TSCA's Here

Early in August we had visiting Small Crafters from the Delaware River and Old Bay TSCA Chapters. The day after our mighty blow, August 5, Doug Oeller brought his 15' Joel White designed Marsh Cat, Mike Wick his 16' Melonseed, Phil Maynard his Ed Monk designed sloop with a lawnmower engine that he built from parts and John Blakewell his O'Day Daysailor II. We usually meet at this time of year at the Small Reach Regatta in Brooklin, Maine, but due to our unusual summer they met here for a camp cruise in Fisher's Island Sound, isolating in individual small boats.

They did a sail by at Stonington's Wednesday Night Dinghy Races, spent the night off Sandy Point (which was quiet until the power boats came out at 8am) and visited Stonington Harbor the next day for a sail around on their way to West Harbor. René Boelig and I joined them for a day sail in our 15' Bolger Harbinger catboat. Thunderstorms threatened but did not arrive, the best kind, Mike said. Their boats then disappeared into the fog, helped by a fair current, to overnight off Fishers Island as we turned back for our home mooring. Later correspondence confirmed their safe returns home to Massachusetts, Virginia and Pennsylvania. Trailer sailors range far and wide, our boats have wheels.



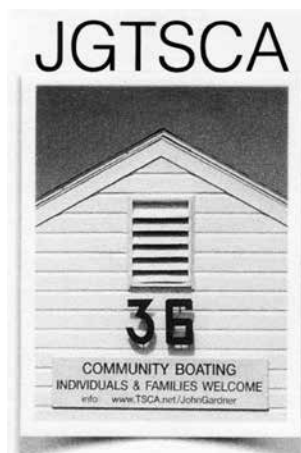
Brian Cooper's Light Sails

Carl Kaufman responds to our article on Brian Cooper's experimental light sails with some interesting historical insight on sail material:

"I hope Brian Cooper's sailmaking venture works out. Sounds like a good way to go, make a Mod 1 sail out of whatever comes to hand, be it an old nylon spinnaker or a piece of shrink wrap, and get it to fit the way it looks right. Then, when you figure out a good spar plan for that type of sail, use your Mod 1 as a pattern to cut a Mod 2 sail using material that has suitable properties, strength, stretch, etc."

But the caution is not to be guided by history and make a sail that looks like pictures from an earlier century. Those were most often poorly shaped, crudely made, badly fitted sails made for workboats from whatever cloth the boat builder could afford.

In these days of recreational sailing, with performance much more a factor, all sorts of materials have been tried for sails. Most have been rejected, and for good reasons. .75oz nylon, for instance, proved a good choice for radial head spinnakers but it rarely is successful for a jib or mainsail, too stretchy to hold shape. Rayon is an elegant fabric to work with but the cellulosic fiber is weak and rayon fabric does not last long in the weather.



John Gardner Traditional Small Craft Association

Welcome to John Gardner
Traditional Small Craft Association

Visit us at the Community Boat House: Building #36 UCONN Avery Point
1084 Shennecossett Rd, Groton, CT 06340

Good Little Skiff & Dory Maintenance

from 5:00 pm Fridays, at UCONN Avery Point Boat house Building 36

Next Meeting: Sunday, September 8th at 12:30 pm

Potluck with Meeting to follow at UCONN Avery Point Boathouse Bldg. 36

Local: www.JGTSCA.org www.facebook.com/JGTSCA

National: www.TSCA.net

John Gardner TSCA News

From Bill Rutherforda

Mylar film was once touted as great for small boat sails because Mylar is dimensionally stable and with a transparent main a helmsman can actually see where he is going. But Mylar is hard to fold and stow and it never found a market except as a laminate with other materials.

An early attempt was even made to use film of the first synthetic plastic, Bakelite. Decades before nylon was invented, Bakelite was cast into sheet form and made into a sail for a boat at the Bakeland family camp in the Adirondacks. Leo Bakeland, the inventor, was himself a boater (and a founder of the Cruising Club of America) but his boat was a big motor cruiser with a square sail on a yardarm so the needs of sailboats did not fit into his wheelhouse. The Bakelite small boat sail was amber colored and ugly and it performed so poorly that, to my knowledge, no one bothered to repeat the experiment.

Curiously, the manmade fiber that proved to be so successful as a sail material, Dacron, succeeded almost in spite of its creators. Sailmakers got early samples of DuPont Dacron polyester and found that it outperformed the best Egyptian cotton. Dacron sails held their shape better, were light and strong and could

be stowed wet without getting moldy. At first, though, the DuPont Company did nothing to promote Dacron for sails and even discouraged orders from companies making sailcloth. The conventional wisdom was that apparel was where the action was. The sailing market was too small to bother with.

Dacron took over the waterfront anyway, just on its merits, and as fast as they could find a way to get around DuPont's patents the competitors came up with polyester fibers of their own. Profits quickly ran into tens of millions of dollars and doors opened into a whole new branch of sailmaking technology.

What makes this story particularly interesting is that at this time in history the DuPont executive committee included two serious sailors, both major stockholders, both with the last name du Pont, Pierre S. du Pont and Henry B. du Pont (for whom the Seaport shipyard is named). I guess the fellows running DuPont's Textile Fibers Department saw no need to consult with the bosses upstairs on an unimportant market like this one. After all, market surveys made it clear that people wanted outboard motorboats in those days, not sailboats. So there would never be much of a market for Dacron sails, right?"

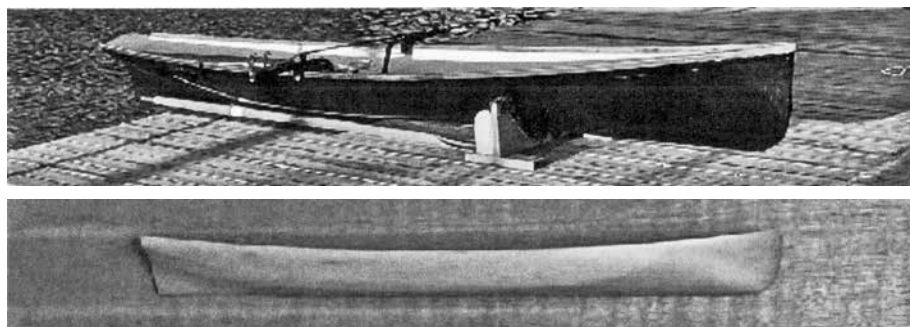
A Fast Rower Revisited

We featured Clay Burkhalter reconditioning his Rob Pittaway designed Stonington Pulling Boat in our November/December 2019 Newsletter (Vol 5, No 8). Here is a photograph of the completed project, including a drop-in Piantadosi rowing unit. Looks fast. Nice padded leather support. Also shown is the half model Rob Pittaway carved for the original design which now hangs on his living room wall. To drop Rob a line or give him call, I can provide his contact information.

A New Book

Thad Danielson, a frequent participant in our JG Small Craft Workshop, usually bringing a boat he just built, has a new book out, *An Introduction to Wooden Boat Building: Always More to Learn*, in paperback and on Kindle. This from Thad:

"Hope you are doing well there in Stonington. I self published, https://www.amazon.com/dp/098565015X?ref=pe_3052080_397514860 Small boats. Cheers, Thad."



He is being modest, in it he presents the processes followed to build both a Norwegian Pram and an Arthur Spurling rowboat. The latter he brought to last year's Workshop. My favorite quote from his book, "Square rarely occurs in boats, fair and fit rule."

Some Foreign Correspondence

The following arrived as a surprise in my mailbox from Ronny De Gruyter, Botenmaker, from Belgium:

"This letter to let you know JG has a fan in Europe, Belgium to be precise, and it's me. I started tinkering with the idea of making a boat in 1995, made one and launched her in October 1999. It was the "14' Row & Sail" as described by JG in his book, *Classic Small Craft You Can Build*. I have sailed her ever since and have had some boats in between, still, this one is my favorite and the little gem has served me well in many waters all over Europe.

One year ago I started a modest boat building shop/yard. Knowing after 25 years sailing this boat, it's praised and loved by many beholders of all ages, including kids, I decided to make another instance of the design. With some minor updates mind. The boat was launched last April and did some daysailing in July. The "making of" is documented on the www.Berthas.be website."

Note, some translation is required on the website just highlight the text and have Google translate. Thanks to Ronny for sharing his enthusiasm. His boat looks to be the 14' Semi-Dory in Chapter 8 of *Building Classic Small Craft*. Good boats travel widely.

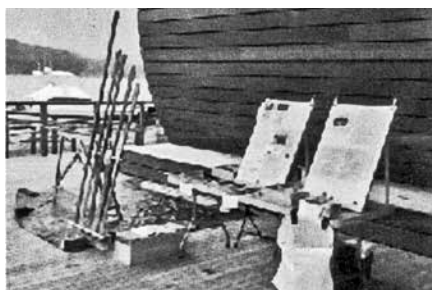
Here is Sid Whelan's 91st birthday present to himself, a handcrafted Adirondack guideboat being built at Adirondack Wooden Boats in Lake Clear, New York, by Allison Warner, Adirondack Museum's Boat Builder in Residence, and her husband Rob Davidson. They use only traditional materials and methods to build their wooden Adirondack guideboats.

"We get the white pine used for planking in log form before milling it ourselves, it is then air dried for at least a season before using. The red spruce knees we use for ribs and stems we dig, mill and air dry for three or more years. The red maple and cherry used for seats, oars, gunwales and details are obtained likewise. The brass hardware is forged by a regional craftsman custom for each boat we

Wood Weekend at Mystic Seaport

Brian Cooper was selected to present at Wood Weekend at Mystic Seaport. Here is his report straight from the deck of the Thompson Building:

"A little rain but a lot of people interested in the Greenland paddle and making it. Two young kids were very interested in trying a hand plane, chisel and drawknife. No blood spilled. Educated a few people on oars and paddles (it's the oarlock, shape of paddle/oar doesn't matter). Here is my setup in the morning. I had the end spot. Nice view of the river."



Pecking Away at the Dories

Bill Armitage and myself have been pecking away at the dories. Repairs are complete on #4, while #3 still needs some modifications to the oarlock sockets which I am doing. Both boats will need paint and stenciling.



Sid Whelan's New Boat

make." Visit them at adkwoodenboats.com to see fantastic photos of their craft.

Sid advises, "This is a Caleb Chase (of Newcomb) design that Rob Davidson recommended when I asked for a 16-footer with plenty of beam to carry kids, supplies and gear. Chase is credited for being one of the first, if not the first, of the 19th century master builders to discard the high tucked, wineglass transom for a double end which was more practical to build and also made it a more useful workboat with more cargo space and lighter on the carries.

Chase's boats have little deadrise which has the downside of being less curvaceous

And Fixing Up the Shop

Building 36 needs some attention. I looked at replacing at least four windows 34"x33". I suggest we go with PVC this time. They have the divided lights so should look the same, the cost would be about \$50 to \$60 per unit. The PVC would cut down on maintenance and they cost less.

The exterior of the building is looking a little ragged. There is some green mold on the north side which should be scrubbed off. There are a few more rotted clapboards that should be replaced (Dan Nelson fixed the south side two years ago) and there is chipped paint that could be touched up. The front steps are pretty sketchy and have been patched up over the years, it may be time to replace them. I met the head of maintenance about two years ago and he takes very seriously the look of the campus, our building is not in his budget per se and I think we need to take some pride in keeping up its appearance.

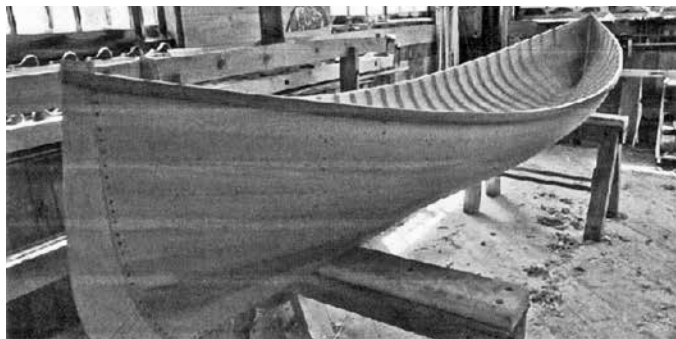
Mystic Shipyard East could also use some care as far as clearing and cleaning up the overgrown bamboo and brush. Also a few repairs to the rack.

This all sounds like a lot of work but it behooves us to pay attention to caring for our assets or risk losing the valuable spaces that have been graciously provided to us. I have been spending a few hours in the mornings down there and people wander in to see what we are all about, there is good potential to revitalize our membership and recruit new people.

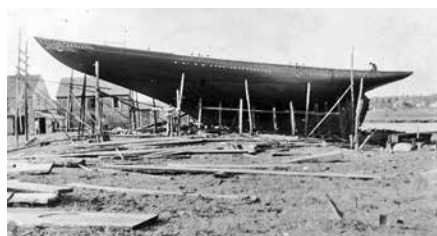
and therefore less beautiful below the waterline, which I admire in the Brown's Tract (Grant, Parsons) boats, but I've experienced difficulty in turning that fine entry, hollow dead rise beauty in a chop. Slow and stubborn to turn while the whitecaps are slamming my beam.

The Chase design is easier, Rob tells me, in that situation with a wider entry to the chop, easier to angle against the weather. He also has added an inch to the freeboard of the original design to provide even more buoyancy. Some Progress Photos."

Here she is with ribs trimmed and her sheer beautifully apparent.



Essex shipyards are well known for supplying quality schooners to the Gloucester fishing fleet but the reputation of our builders attracted orders from afar as well. In 1912 the Gulf Fisheries Company in Galveston, Texas, ordered the 93' knockabout sister-ships *Yucatán* and *Arcas* from Leonard McKenzie's South Essex yard. Below *Yucatán* is in frame and *Arcas*' keel has been laid in the first photo, the second shows *Arcas* just prior to launch and in the third *Arcas* is leaving Gloucester harbor, bound south.



In the photo below the schooner *Yankee* is warped in close behind the harbor tug *Eveleth* for the tow through the tight bends of the Essex River. Built for the O'Hara Brothers in Boston, the vessel was modeled by Ed Perkins and measured in at just over 115' long. Two years later the schooner *Shamrock* (also built for the O'Hara Brothers) would be built to the same molds, or frame patterns, with a few modifications by loftsmen Archie Poland. This practice was a common one as it saved time in the mold loft and allowed for incremental improvements to a proven design.



Frame Up Essex Shipbuilding Images from the Past

By Christopher Stepler
Operations Administrator
Essex Historical Society and Shipbuilding
Museum (978) 768-t7541

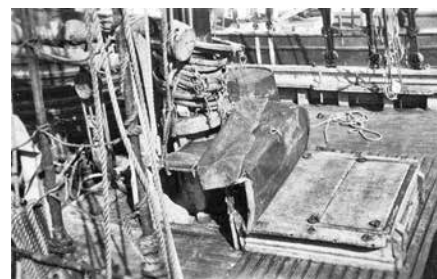
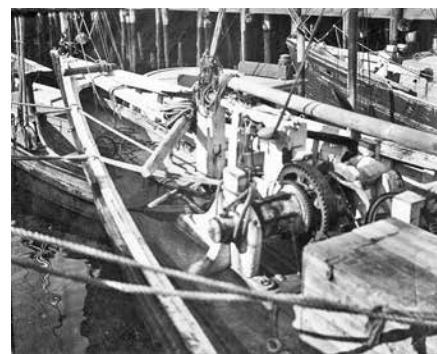
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In the photo below the schooner *Shamrock* (sistership to *Yankee*) begins the trip to Gloucester, after a flawless launch, towed by the Boston tug *Confidence*. The owners of the new schooner, O'Hara Brothers of Boston, had previously announced that *Shamrock* would race in the Anniversary Race for the Lipton Cup. The excitement around this new contender attracted a massive crowd on launch day with cars parked three deep on some Essex streets. After a three day delay for fog, the race was held on August 30, 1923, just 12 days after *Shamrock*'s launch. Although the new schooner was skippered by none other than Marty Welch, *Shamrock* was outmatched by the *Henry Ford* and the *Elizabeth Howard*, coming in third. In a trend that would continue as the decade wore on, both *Shamrock* and *Yankee* were converted into schooner draggers shortly after the race.



While fishing schooners left the Essex shipyards clean, painted and spotless, they didn't stay that way for long, the rigors of nearly non stop fishing and sailing in all types of weather would quickly show on a new vessel. These undated photos of the schooner *Natalie Hammond* (top photo below), launched December 1913, show the wear of constant fishing and allow a good look at the deck arrangement of a typical Essex schooner of the period.



The photo below shows in the distance along the causeway the 114' knockabout *Arethusa* being maneuvered by its tug after a successful launch on the afternoon of September 25, 1907. Many know *Arethusa* (renamed *Tomaka* and sailing under the British flag for legal reasons) as rum runner Bill McCoy's flagship, but the schooner had a successful 14 year career fishing out of Gloucester before joining McCoy's fleet in April of 1921. *Arethusa* was known as a good, fast sailer and consistently landed large trips of fish under eight different captains between 1907 and 1921.





According to the note on the back of the above photo, this is probably the schooner *Ralph Brown*, built by A.D. Story and launched January 8, 1914. The tide is high and we get a clear view from the shipyard across the basin and downriver with a closer look at right. Some small craft are moored in the river and there's another schooner nearing completion down in South Essex. At 96.5', *Ralph Brown* was no small vessel and carried an impressive spread of sail to match. The photo below shows the *Brown* setting "everything but the cook's underpants" as the fishermen of the time would say.



This group of boathouses pictured below in South Essex (situated about where Shea's Riverside Inn and Motel and the neighboring condos are today) provided a spot for clammers and other boaters to tie up and to top off their tanks with gasoline, too. Of the seven boats in the photo, only three appear to have engine power, a number that no doubt increased in the years to follow. While we don't have a date for this photo, we do know that the buildings were in place in 1914 as they can be seen in the background of the shipyard photo at right.



The Essex Historical Society and Shipbuilding Museum tells the extraordinary story of a small New England village that built more two masted wooden fishing schooners than any other place in the world. Shipbuilding in Essex began before 1668. By 1849 as many as 15 shipyards were producing over 50 vessels a year. In all, more than 4,000 wooden vessels had been launched into the Essex River.



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So what do we do when the world swings out of its normal orbit and we have a bunch of time on our hands? This older couple spends a good bit of time studying more about the scriptures, especially the Tanakh (Old Testament) and how it relates to the words of Jesus and the Apostles, as almost all their words are taken directly from the Tanakh. One half of this couple also thinks about flowers for the outside and, of course, this half of the couple also thinks about a boat project.

As of this writing we still haven't sold my previous boat project which we are unfortunately unable to use. The Trifoam 16 Trimaran has proven too difficult for us at 86 and 81 to launch and retrieve due to its form factor (how do you board a trimaran from a dock?) and it has been offered for sale at the cost of materials (under \$2,000 including trailer). Build was published in *MAIB* issues Vols 36 #5, #7, #10 and Vols 37 #1, #4 between September 2018 and August 2019. These pics show from first model to first launch.



As a result we have neither the space nor the resources to undertake a major new project. However, hope springs eternal! It seems I had on hand all the major materials to build a sailing rig to fit into my Dave Gentry Chuckanut 12 SOF (skin-on-frame) kayak, also chronicled in *MAIB* (Vol 34 #12 and Vol 35 #1, #2, #3 from April 2017 to July 2017).

I love the Chuckanut 12. After finishing the bare frame and staining the structure, I just wanted to hang the skeleton in the family room. Carole is a great supporter of my boating interests but there are limits and that one was over the edge so I knew better than to even suggest it. Covered in George Dyson's polyester fabric with a white deck, yellow topsides and a black bottom, it cuts a pretty

Chuckanut 12 Sailing Rig

Part One

By Jim Brown

figure. Shown with our youngest son Tom, now 52 and a grandfather.

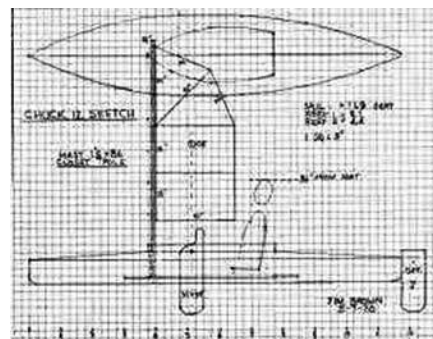
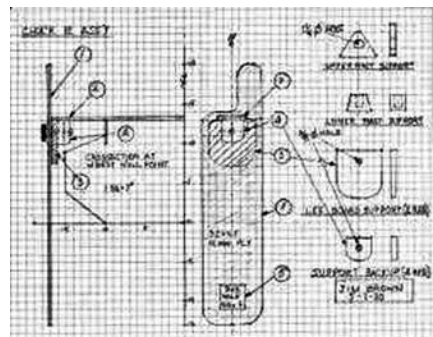


and steering mechanism (or maybe just use the kayak paddle which will be on board in case the wind decides not to cooperate).

So, off to the woodpile and the fabric closet! The work begins. The closet revealed that I have enough gray lightweight rip stop nylon to make the 12sf sail I have in mind. And the wood collection revealed that I have enough left from the 12mm (1/2") meranti marine plywood left over from the original Chuckanut 12 build to make the leeboards and a few other parts.

Plus, I have enough 1"x3" pine or oak pieces to make other needed components. Since the kayak already has some nice looking varnished oak brightwork, I decided to go with the oak since it is stronger than the pine and stains and varnishes so nicely. Even if the sailing rig doesn't function as well as I hope it will, it can at least look up to the standard of the rest of the boat!

So what is the Master Plan for this latest brainstorm? Here are some sketches.



Dave Gentry was never informed of this latest venture so he did not in any way approve of my "hairball scheme" (as Dan Rogers would say) and he bears no liability for whatever may result from putting a sail rig on this tender craft.

I went to my reference shelf and pulled out "Sailing Rig, the Essence and the Art" by Todd E. Bradshaw and "The Sailmakers Apprentice" by Emiliano Marino to see what I might cobble up with what was on hand. The result of my research was a vague plan and some sketches based on measurements of the kayak in question. SOF kayaks are not renowned for having many convenient attachment points for add ons so this was a bit of a challenge.

Despite my having obtained, in the distant past, a couple of Engineering Degrees (BSME 1955 and MAE 1960), these days I seem to find myself working from cardboard models or rough sketches, plus what I see in my head, rather than actual design plans.

The major components needed will be: Leeboards with supporting structure, mast and supporting structure, sail and rigging, rudder

There are few actual dimensions shown but most can be determined by counting the squares if you are so inclined. Dimensions are not critical since the sizes of some pieces were determined by what I had on hand rather than calculations. For instance, the leeboard width of 7 1/2" was just because that was half the width I could get out of the leeboard length I wanted on the odd shaped piece of meranti I had left.

The method of attachment for the finished leeboard assembly to this SOF kayak is to clamp the assembly to the cockpit coamings using J-bolts. I found some stainless 4" long 1/4"-20 J-bolts at the Blue Store which, with a little hammer and vise work, could be made into the proper shape and which fit through slots in the strut connecting the leeboards, with just the right amount of thread to permit a SS washer, and a neat 1/4"-20 threaded black plastic knob above.



Although I had made an estimate of the leeboard location to match the sail center of effort, I made slots in the strut to permit a range of fore and aft sliding along the hull to adjust the location of the center of lateral resistance. The entire assembly will be easily removable for cartopping and storage of the kayak on my overhead lift.

The pic below shows the upper and lower mast supports for the closet pole mast plus a ply "boom jaw" to connect the mast to the boom. Not sure about the strength of that boom jaw and I might make another one double the thickness. As you see the completed assembly I think you will agree that the whole thing is much more "heavy duty" than it really needs to be.



Meanwhile, back at the shop the parts have been stained "gunstock" and varnished with Helmsman spray varnish, so I'll let that all set up well and then put this thing together. The only major thing that remains is the construction of the monstrous 12sf sail.

Below are all the wooden parts except the mast, boom and sail battens. Note the 3" square holes in the leeboards which have been filled with copper plated steel bbs, set in epoxy as I really don't like melting lead for weights. I decided to use the boom jaws shown rather than the plywood ring design made previously. The boom is a 3/4" oak dowel.

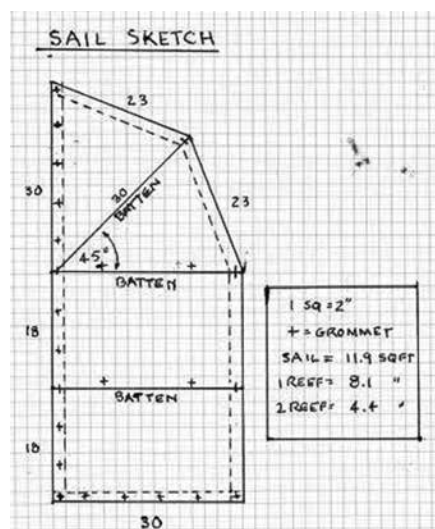


There will be a temporary time out because of some persistent gout like symptoms in my right foot which have been aggravated by increased time on my feet, both in the shop and at the Blue Store. My excellent sports medicine doc said it was not gout but tendonitis where the shin muscle connects to the bone on the outside of the right foot, right above the center of the arch. This has been a pesky problem on and off for the past year. So I'm headed for about four weeks of physical therapy. But work on this project will continue as time permits!

Whoops! A major honey do project just interfered with the sailmaking. Removed four old flower boxes from the front porch railing, replaced them with four new flower boxes from the Orange Store plus added four new flower boxes to the back porch railing. Not a complaint as Carole has been a real treasure and helpmate for the past 41 years. And today we got a gazillion petunia plants and six bags of potting soil to plant them in the window boxes.

It's now a week later, Memorial Day weekend. That reminded me that 65 years ago at this time, as I received my BSME at the University of South Carolina, I was also commissioned as a shiny new Ensign, United States Navy. Time flies when you are having fun!

Work has now started on the gray rip stop nylon sail. That is some slippery stuff and is somewhat difficult to sew. Carole has some marking pens with purple disappearing ink so all my layout errors faded out in a day or two. Here is a sketch of the sail and a pic of my helpmate at work sewing on the sail.



FIRST step was sewing a 1/8" bolt rope around the perimeter with a 2" foldover to double the fabric thickness where the grommets will eventually be placed.

SECOND, the foldover hem was folded under and zig zag stitched down to the sail. Note, the extra foldover dimensions are not shown on the attached sketch and 2 1/2" need to be added all around to provide a double thickness for the grommets.

THIRD, three batten pockets need to be zig zag stitched on as shown.

FOURTH, sail tape reinforcements need to be added for each grommet location.

FIFTH, the grommets need to be installed. I found a 24 pack of Bostitch 3/8" brass grommets at the Blue Store for only about \$6 (including installation tools) and I think I will use every one.

FINALLY, stitching will be done around all the sail tape grommet patches, a very time consuming job.

I had only a small remnant of really nice sail tape left over from a Dave Gray (Polysails International) sail kit I had bought about 15 years ago for my Michael Storer PD Racer, not enough to reinforce the corners and all the grommet attachment points. It is really nice tape with a fabric base and a matte white finish and I didn't want to use the glossy white vinyl duct tape I had on hand. I was unable to locate any such tape locally or online at Amazon, etc. A phone call to Dave Gray resulted in him being willing to send me enough of that nice tape (3M3903) for this job. Thank you again, Dave. I should add that I was very pleased with the 59sf Bolger leg o mutton sail in blaze orange that Dave made for our Trifoam 16!

This sail requires three battens which I wanted to be fairly flexible for good sail shape. My first thought was to use 1/4" dowels but these proved to be too stiff. Then I tried some plastic strips cut from stuff I had on hand but they were too flimsy. In the Blue Store I spied some oak strips (called "flooring splines") about 1/2"x1/4"x48" but it was necessary to buy a ten pack and they proved too stiff also. So I set up my trusty old Craftsman router and thinned three down to about 1/2"x1/8". Like Goldilocks said, they seem just right. If still too stiff, I can thin them about 1/32" per pass more on the router. In retrospect I could have started with some oak on hand, ripped some strips on the table saw and then routed them to the proper thickness.

Life continues to happen so things never seem to go quite as swiftly as I think these fairly small jobs should go. For instance, we are in the process of purchasing the 2017 Subaru Crosstrek which we have been leasing for the last three years. It has been a great car and has never been in to the dealer for anything but routine oil changes and service every 6,000 miles and has never needed any oil added between those oil changes. Simple enough, but it involved the Chase Bank, Subaru Dealer, the Tennessee DMV and the Monroe County Courthouse. Chase Bank is in Arizona and Texas and the others are each 20-40 miles in different directions from where we live. Looks like it will take about three weeks, all as a result of the effect of the Wuhan virus on the banking industry.

There is more to installing grommets in this rip stop nylon than meets the eye. First, I tried installing grommets through about four layers of the rip stop plus two layers of sail tape. The cutter tool wouldn't cut through, no matter how big the hammer nor how hard I

hit it into the wood block. So I tried cutting a hole in just one layer of rip stop. No go, that stuff is tough! In the middle of the night I had a thought, put the hole cutter in the drill press with a suitable wood block backup and voila, it cut (actually melted) a perfect hole, even through four layers of rip stop and two layers of sail tape. The pics below show the drill press setup and then the resulting perfect hole and a test grommet installed. A good bit of force was required, at a reasonable rpm, and fairly deep holes in the backup pine block resulted (should have used a hardwood block). About 20 holes were done subsequently with no further problems.



Before the final zig zag sewing around all the sail tape reinforcing at the grommets, we decided to do a trial fitting of the sail on the boat with the mast and boom in place. I just used some black "commando cord" which is like the world's longest boot lacing, as shown below. Everything checked out fine but I found some things on the boat which needed to be improved. For instance, I had installed the bottom mast mount with double sided tape as there was no way to remove the floorboards to get screws up through the bottom (because the floorboards had been installed before the fabric skin was applied). That double sided tape was not secure enough so I found a way to get screws down through the bottom of the mast hole and into the floorboards, even though there was structure in the way. However, the mast base may require more lateral support as the front end of the floorboards was never intended to take the side loads.



Life keeps happening, which is a good thing, but sometimes does slow down progress on boat projects. First, my internet router failed and I bought a new one at a local Staples. Both our computers and cell phones worked fine but the wireless printer wouldn't come online. The router came with an online installation and troubleshooting app which was no help. Staples refused to provide any tech help because I had not purchased their \$40 two year protection plan, which displeased me greatly as we have bought all our computers and stuff there, and even have their "protection plan" on both our computers.

After several frustrating long (45 minute) waits for tech help on Netgear's tech help site (they are working from home in India, too), I was cut off twice in mid session but I could see their second tech was heading toward an updated printer driver. My attempt to get an updated driver through HP's online site was not successful but my search was interrupted by an ad for WinZip's driver update service which cost almost as much as the original Staples plan that I had refused to purchase. But I bought the WinZip. Later I found that an updated driver was available for free. All this took the best part of a week but all is working fine now.

We decided to build a white vinyl lattice screen around the HVAC unit. The project

was successful in the building but it has been in the mid to high 90s here for some time and it is just too darn hot for us oldsters to get out there to level the ground and put this large wobbly thing in place.

Then we decided to mount our two kayaks onto the Subaru roof rack and see how that would work. We found it very difficult, and felt that reloading the kayaks on the car roof rack after a paddle at Tellico Lake on a hot day was more than we would be able to manage comfortably. We decided that it would make more sense to keep them on a small trailer which we could just hook up and go.

But nothing is simple in these days of the virus and strained trade relations with China. I had intended to just buy a light duty 4'x8' utility trailer from Harbor Freight like the one I had previously used for 20 years but unwisely sold at a yard sale.

The good news is that it was on sale. The bad news was that the local stores hadn't been able to get any new trailers in several months. A check showed none were available within the 100 mile range they searched. A similar result resulted from an inquiry to Northern Tool. We thought that not only would a small trailer be useful for the kayaks, but it would also be helpful for yard projects such as getting that HVAC screen out of the shop and into its intended place.

I had checked craigslist and there was nothing suitable available at a reasonable price and most would have needed a lot of work and expense to be reliable. Finally I asked the Knoxville Harbor Freight store whether they had any trailers at all, and the manager said he thought there was one small 4'x4' trailer left in the warehouse for \$299. We jumped into the Subaru and picked the kit up that evening, despite realizing that there would be some difficulties making a trailer that small meet all our needs.

The kit itself was very complete and nicely done, including all new 12x4.80 B range tires, wheels and spindles with brand new pre greased bearings, plus lights and wiring, 1 7/8" receiver and safety chains, everything but a nose wheel jack which was also obtained from HF. The trailer has a 1090lb load capacity, far more than I will ever need. Assembly went very smoothly except that the lug nuts had been torqued so hard to the wheels and spindles that I couldn't loosen them, even when hammering on the wrench. I had to break out my air powered impact wrench to get the job done.

The main shortcoming in mounting two 12' kayaks on a 4' trailer is the very short 2' tongue length. I decided to remedy this problem by cutting the tongue in half and installing a steel tube between the two halves. I had thought that the tongue would fit into a 2"x3"x1/8" tube, but not quite so I found some 3"x3"x1/8" tubing 7' long which would result in an 8' tongue length and would be plenty strong. The three pieces will be bolted together.

By now it is mid July and really hot and humid, like 98°F with near 100% humidity, so working hours for us oldsters are limited to about sun up until about 10:30am every day unless a rain shower cools everything off. Carole gets her gardening and other work done while I work on the trailer.

Below you can see the trailer assembly line with the lattice production facility in the background and also the new trailer tongue tube in the paint shop.



While work is progressing on the trailer, Carole has finished the sail and I have stained and installed the battens. These pics are taken in the nearby boatshed. I know you will find it hard to believe that these extensive facilities are all within 10' of each other. The picture below also shows the control center with halyard, downhaul and mainsheet, all rigging made of commando cord.



Also, I decided not to use the boom and gooseneck previously shown and have instead used a full thickness oak "flooring spline" batten firmly attached to the grommets on the foot of the sail with plastic wire ties. With this setup, no outhaul is needed.



The pic below shows my helpmate helping install that heavy extended trailer tongue on the stock frame. That was definitely a four handed job and required someone with more agility to get at some of the fasteners.



The Chuckanut 12 sailing version is ready for its first sea trial but that will have to wait until we can get some other stuff done first. Even though I had all the major materials on hand for the sail rig, I spent almost \$100 on hardware and other stuff. I'll have about \$500 in the new trailer before I am done. The trailer just needs a 1/2" plywood deck and the kayak mounts installed. And I need to get that HVAC lattice screen out of the shop and installed.

It has been about three months since we started this journey. I know readers must think that I could have built a full scale model of the *Titanic* by this time but this story reflects what we can do, and at what speed we can do it, at this stage in our lives. We are blessed that we can do almost everything we used to do, it just takes more time.

Son Tom is coming to visit for a week in early August and maybe then we can take the Chuck 12 to the lake and also give the Trifoam 16 a real test, which it has not yet ever had. So, I'll sign off for now and will report back when we have some sailing activity. Faire winds, my friends!

Gaco Oarlocks

Tryout by John Aborn

After a lifetime of rowing with traditional brass oarlocks and sockets I decided to try a pair of Gaco oarlocks and placed an order through Duckworks. It was a trial based on my disappointment with the inability of brass to stand up to long term wear and tear, leading to excess friction and ratchety movement and the constant necessity for Vaseline (poor man's tallow) as a lubricant.

It has been three years and many hundreds of miles and I am happy to report that the Gaco oarlocks are everything promised and more. The action is still smooth and frictionless and there has been no noticeable wear. They fit my Shaw and Tenney 8' spoons wrapped with traditional leathers with room to spare and they fit into the existing brass sockets on the boat without a problem.

I always feather my oars and because I left the leathers in place I still apply a bit of Vaseline to the wearing surface on the leathers once or twice a year, nothing like the old daily ritual of gooping up everything before heading out. There is a wide bearing surface on the Gaco oarlock and I almost believe that the leathers might not be necessary, certainly not necessary for hardwood oars.

This is a well designed, high quality product and very reasonably priced and it is a worthwhile replacement oarlock for fixed seat rowers.

<https://www.gacoarlocks.com/gaco-oarlock.html>



Ship's Log Tampa Bay Ship Model Society

The problem being that a regular lathe is overkill for long skinny spars, so utilizing the SuperDuper concept...

Overkill or just not suited for production of spars. The template is set and the follower at bottom tracks on it. The upper tool does the cutting and the problem is preventing the spar from flexing. A couple of skate wheel rollers on the back side might provide an adequate steady-rest.



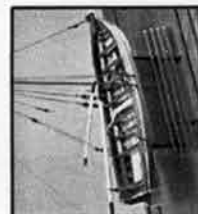
Fasteners omitted to give others something to contribute.

The "SuperDuper" was built on a design by Ron Ginger, specialist in just about everything up-down Maine. The basic building block is the free-floating Follower-Cutter block moved manually on the base. By shaping the point of the follower and the cutter, the device can be made to follow intricate detail on a flat profile template, or a round object such as a gun barrel. It is DIGITAL in the sense that fingers are involved, if the lack of hi-tech bothers you.

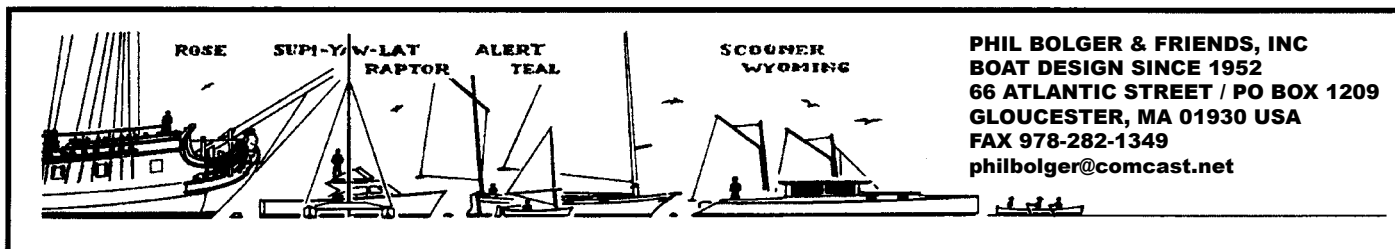
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Part 4 of 6: Pouring Ballast Keel and Sewing the Lugsail

Last issue we saw her being put together by David C. and son N. A good amount of work with both not in the business of building boats, so with her done piece by piece as an after hours off time project with life going on taking priority, whether pursuing a profession and paying their bills or working their way through the school system. Of course, with part or stretches of full time work the project was driven by the reasoning for building their own boat that David expressed so clearly in that issue, a perspective that at least in part may have motivated his junior partner as well. Certainly it was a good way for him to earn a substantial stake in the boat towards using her for small, and likely greater, adventures once completed and launched. Good motivations and grabbing life lessons.

A lot of different skills had to be developed and leveraged by both, no doubt with roots in the earlier smaller construction projects, however, this time typically bigger with more at stake, certainly often far heavier, more costly, with now greater risks of getting injured and certainly much greater financial exposure. But there were also greater rewards once the job was done such as the lure of the remarkable coastal and inland waters of southern Chile.

Two particular projects were not gone into in the last discussion, both a long way from the usual routines, comforts and challenges of working in wood and using epoxy and fiberglass, casting her lead keel and cutting and sewing her lugsail.

Casting Her Lead Keel

Like so many designers before and since, Phil had often shown a cast lead keel on shallow and deeper keels. Here on Designs #503 and #525 a look at the construction drawings shows Phil explicitly suggesting those 1,100lbs be assembled in that keel box by stacking many much smaller individual ingots, or "pigs." Whether in aluminum or plywood/epoxy/fiberglass the interior of that cavity really needed protective coating against either electrolysis between aluminum and lead or, if not adding a liner of high grade neoprene, to protect against plain old plywood rot with moisture accumulating in a keelboat to sit and do the inevitable.

Bricks or Ingots

In the US industrially produced lead bricks measure approximately 8 1/8" long by 4 1/16" wide by 2" thick, weighing about 26 pounds. They are fairly readily available since there are many architectural applications, industrial and medical, in which various levels of radiation shielding are specified.

With such standard lead bricks fully understood in their respective properties, a range of relative shielding capacity can readily be assembled on the given construction site. The 26lb bricks are still reasonably handy to manage hands on, including carrying them into places by hand or cart where no lift or crane could actually be used for the heavy lifting.

Or several simple molds for such bricks could be built, a modest scale lead melting rig set up and then one or a handful of small lead bricks poured at a time using a modest gas burner, wood or coal fire, a process dramatic enough with that heat and molten metal to indeed suggest doing it in modest batches with not too much at stake at one time. Whether using industrially produced lead bricks or custom cast ingots, the following may be worthwhile to bear in mind:

Make sure that the choice of keel construction has actually a wide, long and deep enough cavity after application of a rich coating of epoxy (plus fiberglass) in the plywood keel, or after insertion of that rubber liner in the aluminum keel, so to not have that ballast NOT fit by a 1/8" of too much lead brick in width, for instance. Nor would those bricks be free to move, chafe, clunk ominously each time changing tack or just in a bouncy exposed anchorage. With chemistry being different in either scenario, we'd sure not want find that cavity holding the ballast rotting out quietly to eventually drop the bricks downwards, or at least present endless fretting opportunities locating more and more leads.

Each brick certainly should be drilled and tapped with a coarse threaded hole perfectly in the middle to screw in a lifting eye to pull out each brick with reasonable reliability, perhaps aided by a coating of grease on each of the bricks' sides, corrosion will add a tad of expansion on all sides of the brick/ingot.

Finally, this option of a keel cavity to drop in and take out standard lead bricks from under the cabin sole at will offers opportunities to take some of that ballast out for long road hauls, perhaps better placed in the tractor vehicles for transport, trimming of the boat for different purposes or rigs, pulling the ballast out completely to allow keel cavity maintenance and finally rotating the hull later in life without all that ballast weight creating grief.

Pouring a Custom Casting to Exactly Match the Hull Shape Attached Outside via Keel Bolts

Building a boat to just about any size does not inherently prepare to suddenly do the job of a foundry. There is the constructing of a proper mold to hold the hot and increas-

ing liquid weight of near boiling lead, then the safe melting and finally the reliable gradual pouring of the hot metal into that mold.

One thing is for sure, the lead fumes do not enhance long term brain functioning. Hence the much less dramatic option of using ready made lead bricks discussed above. On the other hand, there are ways to scrounge for lead for apparently substantial savings per pound.

At any rate, there are lots of obvious imaginings and actual reports of tragic injuries or worse, or property damage and lost time plus possible environmental calamities in the given location. Here is one story Phil discussed around a four to five ton episode:

"A trench had been dug to hold the mold. The mold was built, carefully calculated for volume, built stoutly for the pressure of that liquid hot weight and detailed to manage that heat that lingers the longer and thicker the pour, often risking damaging the mold resulting in its outright failure to hold that hot soup in.

Then the mold was lowered into a matching trench in the ground and properly backfilled to really back up the structure of it. Without any foundry routines and infrastructure on hand, the challenge for these wooden boat builders to just melt the lead chunks into that much liquid metal had been impressive, but successfully addressed.

The pour from the crucible into that mold had gone well enough with the flow of liquid metal managed, no supports of crucible and flow channels having given way. However, the level of the liquid lead in the mold began to drop as between heat and weight a seam at the bottom had apparently given way and a substantial amount of that lead found its way through cracks into the ground into parts unknown below.

After the metal and the tempers had cooled, a backhoe recovered what lead was left in the mold and then dug quite deeply into the soil to recover as much of the wayward lead as possible. They did not recover it all, replaced that loss, built an even stronger mold and got the pour done without another hitch. After adding up all that drama, ordering that piece straight from a foundry might have looked good afterwards."

Custom Casting the Keel to Fit the Keel Cavity

After having built Design #449 Old Shoe (a 12' keelboat cat yawl) and having cast her 200lbs of lead ballast, builders David and N. chose the option of melting and pouring Seabird's 1,100lbs of lead ballast as well. Lead weighs some 708lbs

per cubic foot. Old Shoe required the melting of over 200lbs of lead chunks, or some 0.28 cubic feet of molten lead, to do that 4'4"x9"(max) x 1.5" thick casting.

Doing the Seabird ballast casting of some 1,100lbs amounted to managing a volume of 1.55 cubic feet of this hot dangerous liquid to be molten in one session and then carefully pouring in one deliberate shot to end up in a single robust casting without any weakness from poor bonding caused by layering successive pours

Apparently there was no drama in Santiago de Chile with that pour apparently not too scary in that residential neighborhood. We just won't notify OSHA about a few risks to these boat builders nor make calls to EPA about those temporary fumes emissions. But we'll stay upwind.

These few pictures offer the basics:



#1 Melting 1,100lbs of lead bars.



#2 The smelting rig, coals under a steel boiler vessel cut in half.

#3 Ready to open the valve and let the lead flow into the closed top mold.



#4 Cooling off and shrinking a little.



#5 Having toasted the inside of the keel mold cover.



#6 Ready to drop the casting into the keel cavity.

Cutting, Sewing and Detailing the Lugsail

Again, doing the Nymph, Zephyr and Old Shoe offered these builders experience on what it would take to do #525's 276sf dipping lugsail in house.

In some places it might be better to do this work oneself. We had once gotten a letter expressing sincere discouragement from a builder of a design that was out there in some numbers. He had found that his boat just did not perform as expected after all his work in his shop and then the cost of a commercially sewn set of sails.

A few pictures of her under sail had Phil soon muttering one of his worst expletives, referring to that sailmaker as an awning maker, just not in his face or ears. Harshest words out of his mouth.

There is indeed more to making sails than just cutting the cloth and sewing it together with all the detailing, reinforcements and materials and manhours costs adding up the budget IF the finished sail is as flat indeed as a fine awning or a cloth screen is supposed to be. Lots of study of seasoned sailmakers' good sail work reveals a fair bit of dark arts involved and, of course, experience getting the given sail geometry the right amount of draft/belly here and tight flatness there, whether by carefully curving the panel edges or allowing for more adjustments after a season via leaving much more cloth overlap at the panel seams to allow opening them to adjust the sail shape. On these smaller sails this can be a matter of a few inches down to fraction of them and all better fit for the stresses of heavy wind loads in choppy waters.

Clean straight sewing machine work measured by yards per minute for best production numbers will likely produce the flat sails that builder had complained about.

Phil suggested that the sailmaker redo certain seams to build in some body to the sail or have a more competent outfit repair the cut, adding extra cost but not losing all that material and reinforcing work along the corners and edges. When a proven design performs delightfully here and an identical one becomes a slug there, likely the cut of the sail is the issue, apart from helmsmanship. Hence the exchanging of sailmakers' reputations and secrets amongst some hardcore sailors who are convinced that they have the magician on hand whose handiwork will determine the racing season.

David and son N., by contrast, were just interested in giving their conservative coastal long keel cruiser a rugged reasonably cost effective sail, a cloth assembly they'd know how to modify if need be, and eventually even repair.

The plans provided the basic dimensions for that four sided sail but few folks happened to have a room big enough ready to be turned into a sail loft for a bit. So they leveraged the larger footprint of one room in a community facility nearby. They came prepared, ready to outline the cloth expanse on that floor with masking tape, aligning each custom cut panel just so, marked their targets and soon learned how to feed that increasingly larger, heavier, bulkier growing assembly of brand new crackling Dacron into that no nonsense sewing machine.

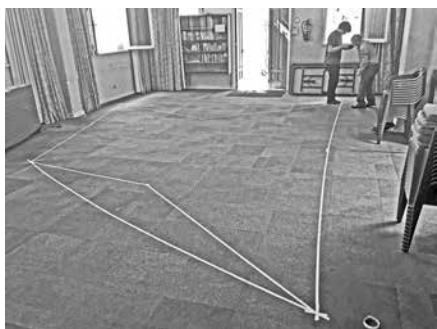
After all, that large room would not be theirs for too long and details like grommets, bolt ropes, reef points, reinforcements, etc could be addressed once these separate panels had become a single lugsail. For now it was a matter of clean seams along the arcs

and lines they had determined to hopefully produce a sail assembly without wrinkles sewn into it and for all to see and to result in a well shaped body for strong pull across a range of conditions, Seabird's wing.

Again, the pictures make the point much better:



#7 First layout by masking tape of the sail geometry.



#8 Cutting first sail panels on folding tables.



#9 Sail panels get a first fit.

#10 In the middle of the sail for further checking measurements and marking details.



#11 Feeding smooth brand new Dacron panels into the sewing machine.



#12 Sewing machine, supplies and a lot of determination.

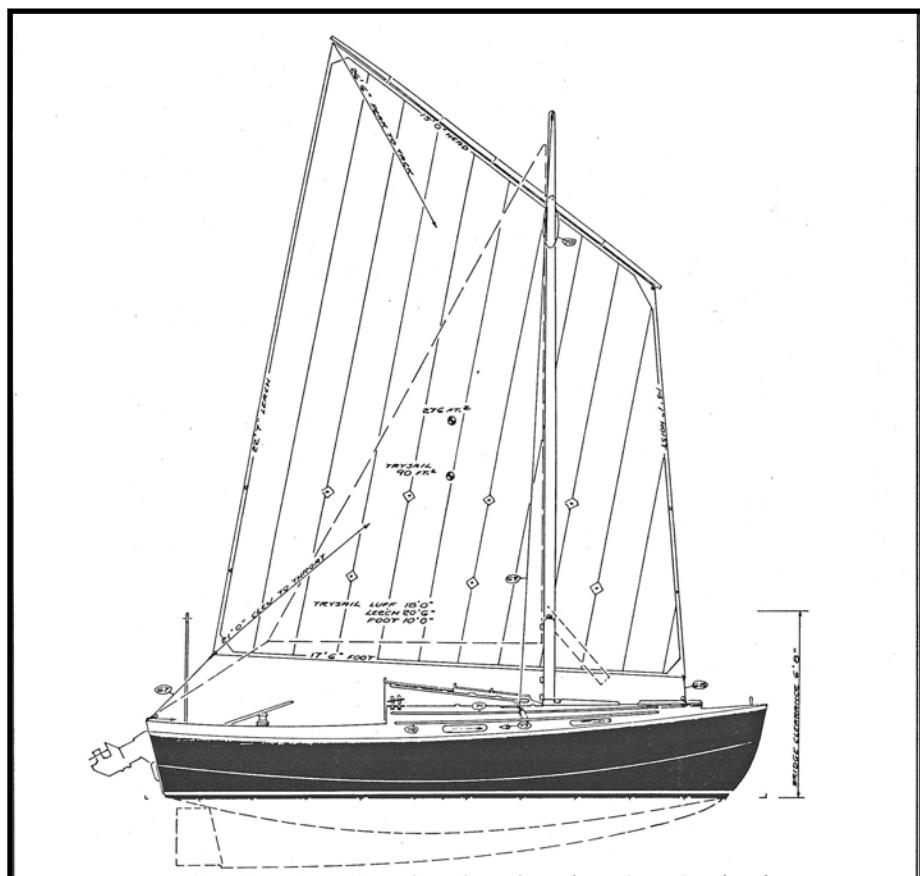


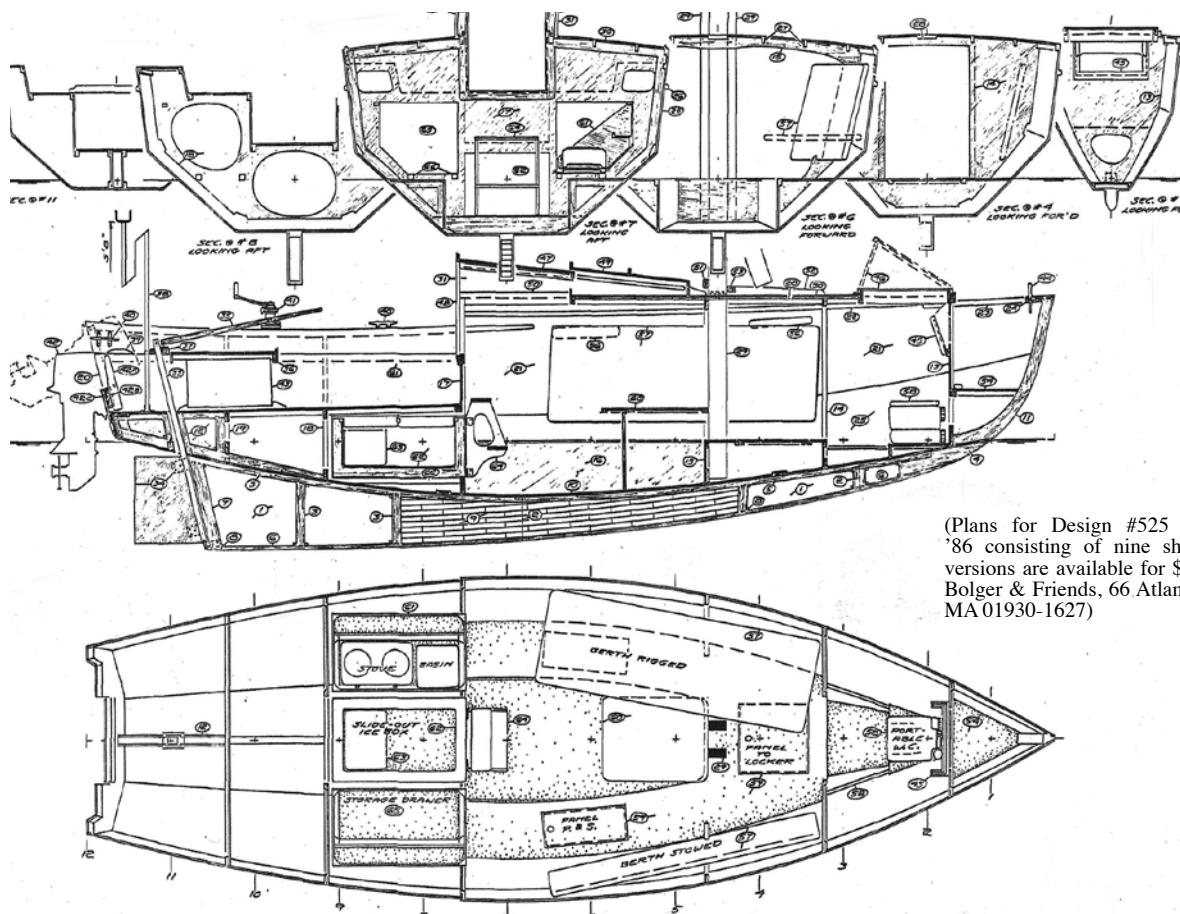
#13 Further detailing the sail outside in the yard.

#14 The dipping lugsail pretty much finished with all reinforcements, reef points, clews, grommets etc readied to go on the yard.



Next issue Seabird '86 will be launched and sets sail.





(Plans for Design #525 plywood Seabird '86 consisting of nine sheets featuring all versions are available for \$300 from us: Phil Bolger & Friends, 66 Atlantic St, Gloucester, MA 01930-1627)

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One time I was towing a Tornado catamaran (with the trampoline on) on a tilt trailer on I-10 when an afternoon squall line came through. The side wind gusts were strong enough to shift the Tornado trailer out of the lane I was driving in, sideways into the emergency stopping lane. Happily all the tie downs held, the Cadillac hearse outweighed the boat and trailer and the trailer tongue held. With another squall line coming, I pulled under an overpass and waited until the next storm had passed.

An individual I knew was pulling a Tornado with a VW van when he was hit by a strong crosswind. The van was not heavy enough (or low enough) and the wind laid the van and boat on their sides. No one was hurt as he was going quite slowly given the visibility, but the windage of van and boat was just too much to keep them upright.

If you are towing an open boat in heavy rain (or continuous light rain) and the water does not drain out properly, your boat may "sink" on the trailer. At least the tow will



From the Lee Rail

By C. Henry Depew

seem quite heavy. I had our Sisu 22 delivered from Dover, New Hampshire, to our home in Tallahassee, Florida. The boat was unfinished (no decking in the cockpit area) and the bilge collected a lot of rainwater during the trip down. The people towing the boat had bailed it out once with some buckets but it still had a good deal of water in it from subsequent rain by the time they got to us. I set up a garden hose as a siphon and drained the rest of the water out of the hull.

Because we get heavy, driving rain from the summer squall lines and the boat was a bit stern light, I installed a second bilge pump near the bow. It was not needed but it was nice to have it available if I left the boat tied up to the float for the night. However, if there was any water left in the bilge and I was towing the boat, the surge toward the bow when I put on the brakes would sometimes cause the forward bilge pump to come on for a few seconds, water would spurt out the forward hose and onto the road. Happily there were no passing cars going the other way when this happened. If I was installing the outlet hose now I would put it on the starboard side of

the vessel so the water would not go into the oncoming lane.

You are responsible for any damage caused by your vessel's wake. The "Caution No Wake Zone" signs are usually found in canals and/or harbors. Of course, if the vessel is moving, it is creating a wake. Our Sisu 22 idled at 2 knots and left a noticeable wake. The Sisu 26 idled at 3 knots and also left a noticeable wake. When I was moving either boat in the canal to our float, I would put it in gear for a moment and then back to neutral. The boat would then glide along for a bit and I would repeat the process. I created a short period of wake along the way, but nothing large or damaging.

If a large vessel is moving at any speed it will create a sizable wake. One of the skills learned early by operators of smaller vessels is when to turn the bow into the wake coming at you to lessen the roll. In one case, a large vessel was moving at cruising speed on a river with sawgrass along one side. The wake from the boat picked up a canoe and deposited it (and its two occupants) out of the river and into the sawgrass. The couple in the canoe filed a complaint with the local law enforcement agency.

All of the above came to mind when I read about five boats sinking during a Trump boat parade on Lake Travis in Texas. According to the reports, the boats were swamped and sunk by the wakes created by larger boats moving at high speed while being part of the parade. Of interest also was that the reports noted that none of the larger boats stopped to render assistance to those in the boats that swamped or sank.

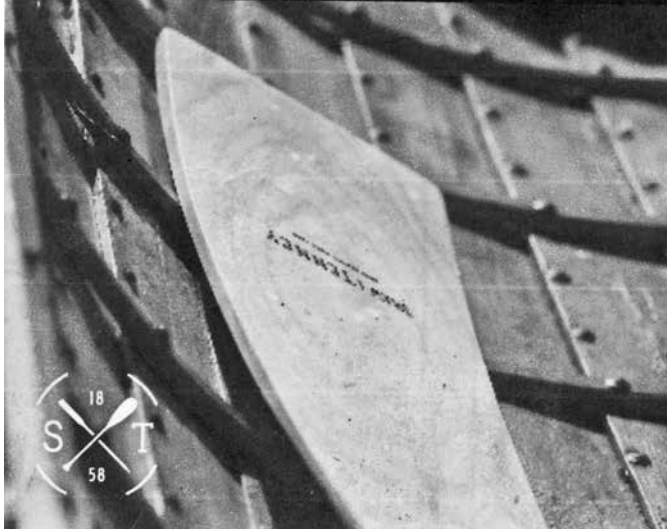


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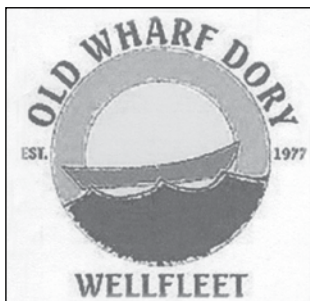


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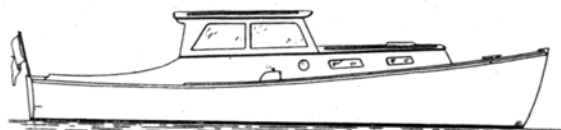
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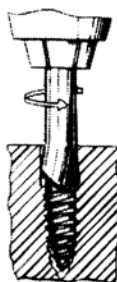
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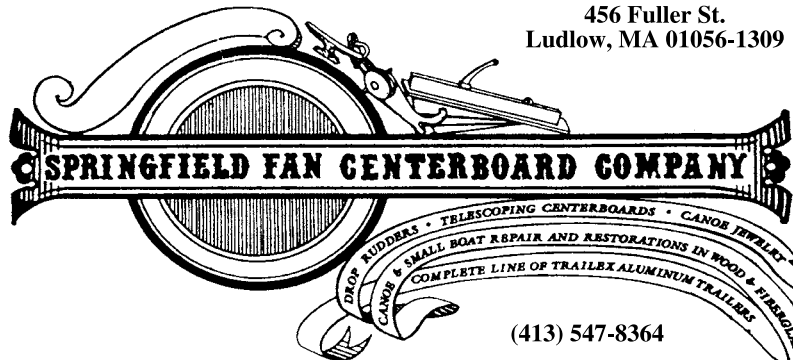
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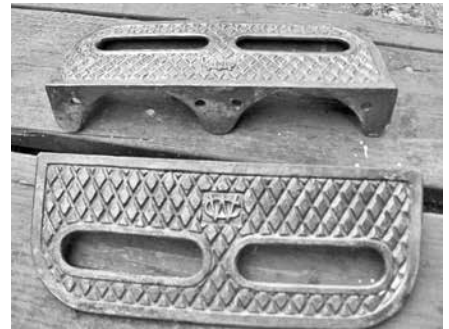
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